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AND

MISCELLANY OF MEDICAL AFFAIRS.

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PREFACE.

In the management of this Journal, and especially during the last six months, if we have laboured under any one governing and paramount wish, or felt any one inclination with that over-anxiety which predisposes the most right-minded man to partiality or prejudice, it was the wish and inclination, fairly, to help our *successful* medical brethren to retain their elevation, and to assist those struggling for scientific notice in their deserving efforts after greater altitude. In the whole circle of the Profession we wished no medical brother ill whose conduct allowed justice to wish him well. We knew that our Profession gave, at the best, not too much happiness to its members, and, where duty would allow, we wished not to mark out from among them victims, for the misery ever caused by distempered invective and poisoned sarcasm. We felt that our Profession was not too united or harmonious; and we would avoid the needless task of kindling fresh coals of strife. We were convinced that society had not too high a notion of our claims on their regard and respect; and we could think it no duty of ours to lend them, with the *Lancet's* certificate, our authority for their injurious estimation. With these convictions, a consideration of interest operated with scarcely less potency. The wanton and unprincipled personalities of the persons who preceded us in the care of this Journal, made it essential, as a point of policy, that we should be overmeek to prove our fairness, and run into the very verge of fastidious prudery to satisfy the world of our claims to common honesty. Interest and duty thus conspiring to make us the favourable censor of our brethren—nothing, it may be easily conceived, but a paramount sense of justice could ever prevail on us to deal with any one of them in a harsh, or severe, or retributory spirit. It was with real pain, therefore, that we found ourselves in collision with the Physician whom we have designated, we think not untruly, the Ishmael of our Profession. We wish not to dwell on the transaction. Every one must be convinced that Dr. Hall treated us in it with an ill usage only second to that with which he has been accustomed to treat himself; and we own, that if we can survey it without reproach, we cannot without pain. Though we felt bound to expose the breach of faith we suffered from, and mark with an ineffacable brand the innate, incurable, monomaniacal dishonourableness in which it originated, our justice went no further; and the very man who causelessly provoked our anger, feels grateful for the moderation which marked its display. As we sought not the affray then, we would sing over it no triumph now; and it will be no fault of ours if its beginning, middle, and end, lie not for ever entombed in the volume which we now close.

Casting this unpleasant reminiscence aside, we think we may look back with some pride to the exertions we have made during the last six months in purveying for our readers amusement and instruction. The lectures alone which we have placed before them have fairly been worth more than the whole expense our subscribers have had to pay for the volume. Few things of worth have been presented in any British or Foreign Medical Periodical, however costly, which have not been made known to them. The original articles we have submitted to them have not wanted the highest scientific interest. The communications of Dr. Clay, on his daring and successful operations for Diseased Ovaria, may be cited as among the most valuable contributions that have been made through any Journal, of late years, to Practical Surgery. The unanimous voice of the Profession has acknowledged our Pencillings to deserve inscription among the happiest efforts of biographical literature; they sparkle at once with the highest moral and mental qualities; and, with reference to our own efforts, editorially, it will not be denied that our emphatic condemnation of abuses on the one hand, and our earnest advocacy of improvements on the other, have never been wanting when there was any just cause for either.

We shall perhaps be the more excused for supposing some little desert on our side in all this, inasmuch as it will explain, flatteringly, to the public taste—which we would think well of—the prodigious success which has crowned our exertions. With the expansion of our labours have expanded, in even disproportionate largeness, the numbers of our supporters. We are now incontestibly at the head of British Medical Periodicals, in reference both to influence and circulation; and, if history may serve as the ground-work of prophecy, we are justified in anticipating, and for no distant day, an extension unparalleled in the annals of class publications. The proportions of the Medical Times are already those of a giant, but of a giant who has not yet reached his full growth. 'Tis Hercules emerging from his cradle. The explanation lies in the fact, that while other Medical Journals have been but the dirty instruments of an ambitious or notoriety-hunting individual, or the puffing circulars of interested book publishers, the Medical Times is felt to be the emanation of the Profession—directed by minds which feel and represent their aggregate interests—its one sole absorbing mission, their good. This independence and representative faithfulness is the secret of our success—the essence of our power, a power which, as it has never been more needed by the Profession, will be applied to the protection of their interests with an energy proportionate to the force of that fulcrum on which all our efficacy rests—their support.

With these few prefatory words, we usher into the world another volume. Another telling memento of Time's fugitive course, it seems as though formed in a handful of days, a period short in retrospection, as the passage through the brain of the thought it raises—brief period, so few of which measure the sum of man's activity! How forcibly does the thought justify Hippocrates' contrast for us of the duration of art with the brevity of life! The lightest minded might be pardoned for turning moralist before a consideration which fails of its natural effect if it stimulate not to renewed diligence in the labours of utility and benevolence—if it elevate not above too warm an interest in the more sordid strifes of the passing day, which are only of engrossing importance because seen but in the deceptive microscope of the Passions—if it fill not with an inspiring consciousness that the only pains truly worthy of us are those which spread beyond, and last behind us.

INDEX TO VOL. VII.

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SUMMARY.

ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. SERRES, Member of the Institute, of the Academy of Medicine, Professor to the Museum of Natural History, Paris, &c., &c., &c.

Summary—Return of modern physiologists to the theory of epigenesis—Causes of this return—Necessity of combining the examination of the views of the ancients with those of the moderns in pursuing the theories of organogeny—Consequences and deductions of these theories—Relations which organogeny establishes between the invertebrata and the vertebrata—Application of its principles to pathological anatomy as well as to vegetable life—Aristotle, the proposer of the theory of centrifugal development—His botanical and zoological classifications founded on physiology—Galen; his comparison of the formation of animals to the construction of a ship, adopted by Fabricius d'Aquapendente—Further views of the latter—Harvey, the first founder of the theory of Epigenesis; formation of the embryo by the addition of parts, by super-position, juxtaposition, adhesion, &c.; his views on ovology.

We shall now endeavour, as clearly as possible, to define this science, by briefly tracing the history of the development of man and of animals. We will explain the principles of this development, as well as its laws, and its relations with the other natural sciences. Interesting in its nature and object, this study acquires, from the labours and notions of the age, a still greater value. The system of *pre-existence of organisms*, till lately so universally adopted, has completely fallen to the ground, and the theory of epigenesis, so long abandoned, but so perfectly in accordance with the spirit of the age, has again risen in its place. "Once more," to use the prophetic expression of Lord Bacon, "has truth triumphed over error." This advance of organogeny is due to improved observation and philosophical deduction. In the deficiency or uncertainty of facts, the mind seeks to supply their place by hypotheses; but in proportion as facts multiply—in proportion as they are elucidated by perseverance and observation—so are the reasoning powers enabled, by a comparison of their relations, to separate the true from the false materials. Hence results the necessity of combining the examination of ancient with modern opinions. Often, indeed, the truth becomes incomprehensible, unless we previously familiarize ourselves with the hypothetical conclusions which have been drawn.

Such is especially the case with organogeny, inasmuch as it serves as the basis to the theory of the centripetal development of man and animals, in contra-distinction to the hypothetical theory of centrifugal development. For, if the *organisms* of man and animals are formed from the circumference towards the centre: if the centripetal law is the general and common rule of all organic developments, it becomes essentially necessary to ascertain how the centrifugal law was established in opposition to it; what were its bases, and what its proofs. If, as according to the doctrine of epigenesis, the *organisms* are originally divided or seperated into distinct portions, ought we not to ascertain whence arose the centrifugal law, that last remnant of the doctrine of pre-existence, which supposes these *organisms* to be formed entire and without division? According to the former theory, which is entirely borne out by observation, we may trace the gradual and successive development of the *organisms*, their passage from one state to another totally different, their various transformations or metamorphoses &c.; while the advocates of pre-existence assert that all organization is in reality immutable, that the whole development consists in a transition from small to great; so that the fœtus is but a repetition of the perfect animal, the embryo of the fœtus, and the ovum and even the ovule, an infinitely minute repetition of the embryo; thus supposing the entire animal to be contained in a perfect state in the generative organs, and as it were enclosed the one within the other since the formation of the world. The solution of this question becomes of immense importance as well in a physiological as an anatomical point of view. For if the *organisms* of beings existed in a perfect state in their ancestors, even of the most remote degree, as the advocates of pre-existence assert, we perceive the whole force of the argument respecting hereditary predisposition in races. If, on the contrary, the parents furnish to the being, but the elements of the body which is afterwards evolved within itself, by a series of successive transformations, up to that definitive condition in which it appears in the world, then human liberty and individual responsibility resume their right.

The doctrine of epigenesis is moreover in accordance with the facts discovered by experience. But still we require a principle which, without distorting, will bind these facts together. Accumulated as they are, without limit, without rule, without locality, they make of general and comparative anatomy a perfectly dead science likely only to dishearten and disgust the mind by the aridity of its conceptions, or else mislead by dragging it into the labyrinth of German metaphysics. But freed from these pre-conceived views which were destined to connect it with another order of ideas, organogeny presents to us nature in its true grandeur. The earth is an immense laboratory in which there is constantly developed, since the first appearance of life upon the globe, a succession of new beings whose organization, following a progressive and ascending scale, gradually mounts from the infusoria, the lowest point of animal life, up to the mammifera and man, the highest of nature's efforts. Science thus exhibits a constantly ascending scale of life, guarded, at various distances, by wider lines of demarcation, periods of rest as it were; so that the whole animal kingdom appears to be in some measure but as a single animal which, during the formation of its various *organisms*, becomes arrested in its development, earlier in one part, later in another, and which thus determines at each period of its interruptions the distinctive and organic characters of classes, families, genera and species.

Hence comparative embryogeny, regarded useless and without object according to the theory of pre-existence, resumes among the physiological sciences the elevated rank assigned to it. In this point of view, in fact, we see embryos of the superior animals temporarily clothed with the organic and permanent attributes of the lower animals; while the permanent *organism* of these latter delineates in its successive degrees of perfection, all the embryonic phases of that scale of beings most approached to the lowest vertebrata. We thus bring within the sphere of general and comparative anatomy the immense collection of invertebrated beings, which, for want of a better classification, are at present but a source of confusion and error to science. What is there, in fact, similar between the *organisms* of the annelida, of the mollusca, and that of the vertebrata, if considered when the latter is arrived at the last stage of development? What is the law which could embrace within its scope *organisms* so different, so distant, and whose contrasts are so striking to the eyes of the inexperienced observer? But when we elevate in idea the *organisms* of the invertebrata, or, which comes to the same point, lower in a like proportion the *organisms* of vertebrated animals, we shall obtain comparable elements, and shall be enabled clearly to distinguish their differences as well as their analogies. This is precisely what nature does in the grand scale of organogeny. Not being able in the actual order of its developments to raise the invertebrata, it brings the vertebrata to their level. This is the remarkable feature which embryogeny presents in these latter animals. Follow in all their phases the multiplied changes which their *organisms* undergo during development; dwell on each of their metamorphoses; study with care their characters, and you will see these transformations delineated, each passing through the forms and attributes of the permanent organization of invertebrated animals.

Such is the general result of embryogeny. One by one its most essential consequences become unfolded. In the first place, if comparative anatomy is a species of permanent embryogeny, organogeny is, in its turn, a transitory kind of comparative anatomy. Secondly, if *organisms* in the course of their development become arrested in their progress, they must necessarily reproduce those of some animal of a lower rank in the scale of existence. 3rdly. Pathological anatomy, or that relating to abnormal organizations, is in reality but organogeny in an arrested stage, or, what amounts to the same thing, it is but a new form of comparative anatomy. 4thly. If the *organisms* of the lower class of beings are but those of the superior class in the course of development, we necessarily have a new impulse given to organogeny by the study of vegetable life. Lastly, and this point is of importance—if the formation of organised beings may be reduced to certain rules, these organogenic rules will consequently be applicable, both to comparative and pathological anatomy, perhaps even to the system of vegetable life; for in science, as in nature, everything seems connected, and intimately bound together.

We thus see that the primary or fundamental question of organogeny and of zoogeny, is reduced to this: whether the *organisms* of animals become gradually formed, or whether they pre-exist.—These two opposite opinions have, since the origin of science, been contested under the names of epigenesis and of pre-existence. During the last century, the doctrine of pre-existence prevailed from considerations unconnected with anatomy and physiology, and epigenesis was rejected from a too early despair of discovering the laws presiding over the formation of *organisms*. The law of centrifugal development is the consequence of the theory of organic pre-existence, as the centripetal law is the consequence of epigenesis. The general question thus merges in the discussion of these two laws; and we shall, while seeking the supposititious origin of the first, see delineated the facts which establish the second.

Aristotle must be in some measure regarded as the founder of the theory of centrifugal development. His extensive mind, embracing within its grasp all organised beings, and foreseeing the necessity of a mode of distinction, arranged them under that classification common to all, named *life*. Starting from this point, he divided organized beings into two classes: those which, like vegetables, have but a single mode of existence, vegetative life, and those which, like animals, have, besides

vegetative life, that of *relation*. This first classification of zoology and of botany, was consequently entirely physiological. This admitted, Aristotle established that the appearance of vegetative life upon the globe must have preceded animal life, which, he states, was merely superadded to the former with a view of perfecting organised beings. Animals being endowed with two kinds of life, the development of each, as well as that of the corresponding organs, must be subjected, he adds, to the general law of vital manifestation; for animals are but moving vegetables endowed with free communication one with another. The question of organogeny is thus reduced to a simple topography of the vegetative apparatus and of those of *relation*. Now, who is unacquainted with the fact, that the heart, and the lungs, the stomach, and the intestines, are placed in the centre of the perfect animal; whilst the organs of the senses, and those of locomotion, occupy its outer portion? According to the principle of Aristotle, development should then proceed from the centre towards the circumference, or from within outwards. The senses indicate it, says this great naturalist, and reason cannot conceive otherwise. To judge fairly of this theory, which afterwards became so celebrated, we must carry ourselves back to the precise period where Aristotle makes the development of animals to commence. This was neither with the vesicle of de Graaff, which was unknown to him, nor with the ovule, of whose existence he was likewise ignorant, nor even with the membranes of the ovum, nor the little *cicatricula* or rudiment of the embryo, of which in his time no precise notions were entertained. According to him, the first development of the ovum and of the embryo-germ are not animal formations. These developments belong to vegetative life. The animal, according to Aristotle, does not commence until the movements of the heart manifest themselves. Then only it becomes a moving being (*per se movens*), it ceases to be a vegetable, and is endowed with the first characters of animal life. The appearance of the movements of the heart was then, according to Aristotle, the commencement of embryogeny; and this organ became the centre whence all others radiated towards the circumference. This erroneous view was the first source of the theory of centrifugal development.

Without stopping to consider the objections which even the order of developments furnishes against this opinion, we ask of modern physiologists, who among them would venture to assume the responsibility of propagating such a notion? Who would dare to maintain that the ovule and its membranes, that the ovum, its coverings, and the first traces of the embryo belong to the vegetable kingdom? Who would make animality to commence with the tardy appearance of the heart, whether in the embryo, or even in the animal kingdom, and thus throw back among vegetables, the infusoria, the zoophytes, the greater part of the annelida, and even some of the mollusca? Still it is upon this rash ground that the hypothesis of centrifrugal development is henceforth to rest. Every being destitute of a heart is to be arbitrarily excluded from the animal kingdom.

Galen, whose treatise, *de usu partium*, deservedly ranks so high, adopted without restriction the views of Aristotle. Not having traced, like him, the different phases of formation in the chicken, he was unable to maintain his opinion as to the undoubted evidence of the senses; but he made amends by calling to his aid all possible forms of reasoning. His comparison of the construction of a ship, of which he made use to render the conception of developments within the reach of every body, has been extolled down to the present day. Now, says Galen, in this construction, the builder first lays down the keel, which constitutes the centre of the vessel; in the same way nature first forms the centre of the animal, which, for this reason, has by some been named the *carina*; then, around this centre, the lateral parts of the animal, as in the ship, become successively placed or supported, so that, in both instances, the formation takes place from the centre towards the circumference; for nature is the image of art, or rather art in this case but imitates the work of nature. This comparison appeared unanswerable to the host of followers and admirers of this physiologist, and the building of a ship became without opposition in all the schools the emblem of man's development, which Galen declared with reason to be the grandest of Nature's operations. We must here remember the immense influence which this physician for a long time exercised over the minds of anatomists, to be enabled to understand the prodigious success of this manner of interpreting the mystery of organic developments.

Aquapendente even sacrificed to it his own views. This remarkable man, who among ancient physiologists best comprehended the problem of the formation of animals, traced with a bold hand the course which could alone conduct to its solution. The chicken, said he, is preceded by the egg: to understand how the first is developed, it is, therefore indispensable, he concludes, to trace the formation of the second. This rigorous and strictly logical method led him to the discovery of the ovigenous vesicle, to which De Graaff afterwards attached his name, and the use of which it was reserved to Malpighi to unfold to us. From this vesicle, Aquapendente traced the ovum, which is one of its products. The ovum thus formed or secreted by the ovigenous vesicle, he followed step by step its transformations in the course of incubation. Directing his attention especially to the development of the membranes, he observed that these formations precede the development of the *cicatricula*, in the middle of which appear the first traces of the chicken. Then applying himself to the formation of the latter, he came to the conclusion that the chicken is formed at the expense of the ligaments of the yolk, of which it seems but a prolongation: an ingenious idea which was subsequently applied by M. Oken to the mammifera. Following up this reasoning, Aquapendente believed that he had discovered in the three primary protuberances of these ligaments, the origin of the three large cavities of the upper class of vertebrated animals: the head, the thorax and the abdomen; and that the limbs were merely superadded at a later period to these three principal centres of life. Now, the ligaments are situated at the extremity of the two diameters of the egg; in unfolding themselves they advance from without inwards; their progress is then concentrical; and if these ligaments form the chicken, it is manifest that the constituent materials of the animal are directed from the two extremities of the egg, to the central or median point where the *cicatricula* manifests itself. Thus nature, in this work, obeys the centripetal law. This conclusion is inevitable, and everything indicates it to have been the idea of this anatomist, although he does not positively express it in his writings.

If Aquapendente had been unbiassed by preconceived notions; if he had followed the bent of his own observations, as evidenced in his able researches on incubation, there is no doubt but that he would have laid the foundation of centripetal developement; but making the commencement of animal life to depend, according to the views of Aristotle, on the appearance of the heart, he was led still further astray than Galen in his views on this subject. The comparison of the construction of a ship appeared to him so ingenious that he was constantly quoting it. He went still further; for he asserts that, as the artist first lays down the most solid materials to serve as a foundation for the others,—so, in the formation of animals, nature commences by the development of the bones, and then constructs around this solid frame-work the other organic tissues. What! the bones precede all other organs! Well may Harvey demand, if it was really Aquapendente who made this surprising assertion. Who, in fact, does not know that, in the order of organic formations, the bones—the solid part—are the last to manifest themselves?

Harvey, tracing in his turn incubation and the first stages of generation with that eagle-eye characteristic of his genius, cast on all sides flashes of light which struggled to dissipate the ancient doctrine; his mind, strengthened by observation, could not conceive these formations to be only a modification of organic matter which should merely change in form, at the various periods of development, as clay under the hands of the potter. He could not see the embryo in the ligaments of the yolk, and the entire chicken in the *cicatricula*. "It is there," he adds, "or it is not there. If it is there, who can show it; and if it is not there, if no one can discover it, why suppose that it is? Is this the manner in which we should proceed in this difficult branch of science? Is not the study of existence already sufficiently complicated? Must we add to it the solution of our dreams, and the contradiction of our suppositions?" Harvey could not conceive the embryo to undergo a series of transformations only, according to the idea of Aquapendente, and as the disciples of the theory of pre-existence more recently supposed. The embryo, of which the first rudiments are in the *cicatricula*, is formed by the addition of parts, by super-position, juxta-position, cohesion; whence it follows, that the whole being is not contained in the primitive nucleus, but results from a succession and association of the various parts. This new language gives for the first time a scientific character to the doctrine of epigenesis. But unfortunately Harvey, like his predecessors, attributed to embryogeny two kinds of life, for he states that the membranes of the ovum, the first outline of the embryo, are the product of a peculiar life. Up to this point the organized being is a vegetable, it is only animalized with the first pulsations of the heart, which this physiologist in like manner makes the *primum vivens*. From this consideration, commencing only at this point of organogenic study, Harvey believed, and was, as it were, bound to believe in the reality of the centrifugal development of Aristotle. This was his error, but this error was compensated by discoveries and by new views, which are almost worthy of ranking with the immortal discovery of the circulation.

"All animals and man," said he, "proceed from an ovum;" and since the time of Harvey the most profound anatomical researches—the most minute microscopic observations—have revealed to observers that the ovum is, in fact, the general *matrix* of the animal kingdom. In creating ovology, this bold idea at the same time opened new routes to embryogeny and zoogeny. If, indeed, all animals proceed from an ovum, do we not perceive in that general fact the germ of the primitive analogy of animals which our illustrious Geoffroy Saint Hilaire traces through all *organisms*? Do we not also see that all animals must arise from this common ovum, according to constant order and invariable rule—as Harvey positively asserts? May we not also, finally, perceive that, to discover this order of formation, it is indispensable to follow attentively the gradual and successive appearance of the *organisms*, a course which this great man laid down as a general precept? The consequence, so to speak, of this manner of studying organogeny, is a conviction that the embryos of the superior animals and of man must traverse in their development the organic states which characterize the lower class of animals: a truth, the demonstration of which will, perhaps, constitute one of the glories of our age.

In all the animal kingdom the first product of generation is a simple being, almost identical throughout the whole series. It is an ovum, that is to say, a fluid surrounded by a membrane, to which is added a small zoosperm. The ovum is furnished by the female, the zoosperm by the male. We find both the one and the other, and each apart, in the generative organs of the sexes whether these organs are combined in the same animal, or whether they belong to separate individuals. Thus we have in a distinct state the two elements, differing in nature, the combination of which gives birth to a new being. But how does this combination take place? What passes within the ovum and the zoosperm at the moment when the union of these two elements is accomplished? This mystery seems impenetrable to our senses; God only knows the secret. We may indeed perceive some differences between the fecundated and the unfecundated ovum; but these differences however important in themselves, are altogether trivial when compared with the great act which has taken place, with the grand result produced by incubation and development. There is, however, a chemical phenomenon which seems to have some analogy with the generative process, that is the formation

of salts. As in generation, there are here two distinct principles, the salifiable base and the acid; so, also, there is a new product, a binary compound, the salt. Now we may compare the salifiable base to the ovum, the acid to the zoosperm, and the salt to the fecundated ovum. But what passes at the moment of penetration of the base and of the acid? How is it that a salt is formed with properties so different from its two *radicals* when taken separately? Of this we are ignorant. Neither the theory of equivalents nor that of substitutions can explain it. Electricity also leaves us in the dark. If this natural and simple phenomenon is a mystery to the chemist, can we be astonished that the physiologist should be confounded by the infinitely more elevated phenomenon of generation? The chemist, indeed, performing himself the mixture, the generation of the salt, which takes place under his eyes, seems an experiment of a more certain character than that of generation, for with the two *radicals* he can create the salt at will. But this degree of certitude, if such it be, the physiologist has, in common with him, for the physiologist can place in one vessel the *non*-fecundated ova, and in another the zoosperms. By pouring the latter over the ova, he can create animalcula at will, in the same manner as the chemist forms salts; and this generation may be performed not only on the infusoria, the mollusca, the annelida, the crustacea, and on insects, but even fishes and reptiles, advanced as they are in the scale of organization, may be developed in this manner.

PRIVATE COURSE OF OPERATIVE SURGERY.

By J. NOTTINGHAM, Esq., Member of the Royal College of Surgeons of London.

INTRODUCTORY LECTURE.

Prefatory Remark.—Rarity of Good Operative Surgeons.—Difficulties surrounding this Branch of Science.—Professor Jungken's Opinion.—Opinion of Celsus on the Qualities required.—Utility of Anatomical Investigations, and Vivisections.—Improvements in the Law in this respect.—The Uses and Advantages of Ambidexterity.—Of an acquaintance with the Dead and Foreign Living Languages.—Of enlarging the Powers of the Mind by extended Studies.—Especial Need of a Knowledge of the various Divisions of Medicine and Surgery.—Professor Serres, Lectures.—The great art, the safely avoiding Operations.—Closing Remarks.

Gentlemen,—In commencing a course of lectures on any scientific subject, or on any department of art,—it is customary to give at least a few preliminary notices of the history of the science, we are about to treat of; and this is generally done by the professors or teachers of Medicine and surgery. As the course of lectures, however, which we now commence will be confined, as much as possible, to operative surgery, without attending to any of the details which relate to what may be called the medical section of this branch of the healing art,—we may be allowed to dispense with the historical preface, which, if short, would, of necessity, be very imperfect and unsatisfactory; and if long, or at all approaching perfection, would occupy the greater part of that time, which we propose to devote, to an account of the present state of operative surgery. Besides which, it is of the utmost importance, that we should consider well and make ourselves acquainted with surgery as it is,—while a knowledge of the details of its early history, amongst the various cultivated and polished nations of antiquity, although an interesting part of the luxury of erudition, is not an indispensable attainment for a good surgeon. We may, however, remark on the close of these observations that the modern, but more especially, the recent history of surgery, should be methodically stored in the memory of every one of us, if we desire to do justice to those, who, from time to time, within the last two centuries more particularly, have aided by the influence of their genius, or the unwearied application of their industry, the late progress of this noble pursuit.

Every one who has attended to the history of the healing art, must have been struck with the obviously small number of men, who have been distinguished as operating surgeons; for how many rare qualifications are required, and how great are the difficulties in the way of attaining them; for if we may believe the statements of surgical writers, it is only a very small proportion of those, who even diligently study our profession, who arrive at any considerable distinction as operating surgeons. Some branches especially of operative surgery, present greater difficulties than others; for instance, on the one hand, that class of operations called great or capital, such as the more important amputations, the operations for stone, the ligature of great and deeply seated blood-vessels, the removal of certain tumours, the operations for strangulated hernia, requiring for their speedy, safe, and effectual performance, the most exact anatomical knowledge joined with an adroitness of surgical manipulation, and the enjoyment of an imperturbable coolness; on the other hand, that class of operations, sometimes called minute, in which the organs of sense are frequently concerned, and of which, operations on the eye, afford a convenient illustration; for here, a knowledge of the minute anatomy of these delicate organs, must be brought to the guidance of the scissors, the probe, the cataract knife, or the couching needle; all delicate instruments, which become dangerous weapons in the hands of the ill educated surgeon.

The German Professor Jüngken, in his work on the operative surgery of the eye, remarks, that although he had taught during ten years this branch of surgery to a half yearly class of about thirty students, very few of them attained to such perfection in the art, as to enable them to perform these operations tolerably well on the eye of the living subject.

Since the excellent regulations of the Apothecaries' Hall of London, have obliged medical students to read a little more of the Roman tongue, the qualifications of a surgeon as laid down by Celsus, have become tolerably familiar to us. The Latin writer, says:—

> A surgeon ought to be young, or at most, but middle aged, to have a strong and steady hand, never subject to tremble, and to be no less dexterous with his left than his right hand; to have a quick and clear sight; to be bold, and so far void of pity, that he may have only in view the cure of him whom he has taken in hand, and not in compassion to his cries either make more haste than the case requires, or cut less than is necessary; but do all, as if he were not moved by the shrieks of his patient.

The truth of such remarks will not, indeed, be doubted, and this list of the personal qualifications of the surgeon, has been repeated and commented on by most succeeding writers on the subject, who have not, however, given sufficient attention to those occupations, studies, or modes of education, which assist us in attaining to the conditions here traced out.

It is fortunate that the study of anatomy and physiology oblige us to betake ourselves to the very occupations, which tend so efficiently to prepare us for the practise of operative surgery; for the constant handling of the scalpel, the forceps, and other instruments, which dissecting-room pursuits require, gradually imparts to us that adroitness in manipulating these instruments which tells so well when we have similar ones to apply to the living body; while those operations on the lower animals during life, which are indispensable to the scientific physiologist, accustom us to the screams, the writhings, and violent efforts, which to the surgeon not well initiated, are not only painful, disagreeable, and troublesome, but now and then oppose effectual barriers to the completion of that which might otherwise have been a tolerably good operation; this is often seen more especially to interfere with the surgical treatment of children.

We may congratulate ourselves that the well educated portion of the community, now no longer display those insane prejudices which for so many centuries kept back the progress of anatomy and physiology, and wilfully and resolutely kept in the dark, all the beauties displayed by the structure, and the miraculous workings seen in the functions of living and organised bodies. We no longer complain of the strange contradiction in our institutions, which permitted the co-existence of chartered bodies to examine men in anatomy, and of laws to prevent its study; happily, we begin to tread on the heels of our friends across the channel, in all that relates to good regulations for the furthering of these departments of science, as they do upon ours in many sections of public improvement, mechanical science, and productive industry. Nor are those departments of experimental physiology, any longer regarded as monstrous and cruel, which oblige the scientific inquirer occasionally to inflict pain on those creatures, whose organs more or less resembling corresponding parts of the human economy, have been interrogated with the aid of the knife, and thus compelled to declare the secrets of their structure, and actions, in this way throwing a light on the admirable mechanism of man which could not be studied in a similar manner.

Indeed, while such prejudices did exist, it was often more amusing than painful, to listen to the manner in which they were expressed, for those who were loudest in their declamations against the inquiries in question, which might be said to produce food for the mind, were seldom found commenting on those sufferings of the lower animals, the results of which are food for the belly; to fry certain kinds of fish alive, or to produce blanched veal by repeated venesections, or to imprison many of the brute creation, and confine them during weeks or months, to an artificial and fattening diet, were not discovered by the same possessors of refined feeling to be in any way either torturing or shocking. We will, however, leave these matters as they are, to the future improvement and progress of which they are capable, satisfied with the pleasing encouragement, which the present state of civilisation, gives to every branch of rational and fair enquiry, and to the prosecution of every useful art.

It must be remembered then that these habits of dissection, and occasional vivisection, are of such importance in the training of the nervous system and of the hand of the surgeon, that however much some weak-minded people pretending to gentle manners, and tender heartedness, should attempt to speak against them, their eloquence is to be treated as sounding brass, or the tinkling cymbal, and they are not to be listened to, even if they quoted the pathetic lines of the poet—

> I would not enter on my list of friends, &c.

Few surgeons are ambidexterous, yet all may become so; Celsus, and those writers since his time, who have copied, or imitated him, attach considerable importance to this acquisition which is capable of warding off a great deal of inconvenience, and preventing

as much disagreeable awkwardness. It is not easy beforehand to divine what men morally, intellectually, or manually, are capable of, and we ought to consider, that there is every incentive to the adoption of methodic and persevering culture, for the purpose of overcoming those difficulties before alluded to, which have been said to be so great, and which are believed to be capable of limiting so much the number of good practical surgeons; indeed the very difficulties themselves have within them the germ of our greatest and best reward, for in proportion to their magnitude, will those who overcome them be few, while the less the number of labourers, so, at the same rate, greater and more promising will remain to each the products of the cultivated field.

Hence, it is evident, that the surgeon is of all others, the man who most should study himself, should discover his own weaknesses, and endeavour to remove them, while he finds out at the same time the sources of strength with which they are associated, and determines wisely to apply them.

The pursuits and operations above noticed, will declare to him something of his own capabilities; and will unveil the nervous feelings or weaknesses he may have to overcome; the source, the nature, and course of which, being scrutinized and understood, he will, instead of despairing of success, be ready to exclaim with the Roman poet —

Felix, qui potuit rerum cognoscere causas;
Atque metus omnes et inexorabile fatum
Subjecit pedibus, strepitumque Acherontis Avari!

But when these characteristics of the quality we call firmness, are possessed in the fullest extent, the surgical student must still regard himself as merely standing on the threshold of preparation, beyond which its innermost chambers, and farther *Arcana* have yet to be seen, and which will be found to contain much that is associated with higher moral and intellectual advancement, and with acquisitions not so easily made.

Here we may be allowed to remark, that as the study of medicine and surgery, are generally commenced at so early a period of life, that it would be impossible for an extended classical and mathematical, or a literary and scientific education already to have been attained; the surgical student should be strongly recommended, to add a little every day, to the schoolboy's former attainments; if he neglect to do this, and devote himself exclusively to his professional studies, he will find when it is too late that he has badly economized his intellect, and his industry, in losing sight of some of the sources of the greatest profit as well as enjoyment. That period of time which is in this country occupied by the preliminary studies or by the apprenticeship, is of inestimable value, if rightly used, for it affords ample opportunity, not only of keeping up and improving the attainment already alluded to, but of acquiring such knowledge of modern languages, particularly French and German, as will afford no trifling aid in our future surgical studies; nor will this be the only source of their importance and value, for a moderate knowledge of the literature and science of our neighbours, will tend to correct that common narrow mindedness, which attaches a superior value to everything belonging to ourselves. In support of such sentiment let us quote the language of one countryman who to a [illegible] of professional attainments join a [illegible] and [illegible] who not only [illegible] the [illegible] of the German [illegible] when such acquisition in this country was much less common than at present, but generously [illegible] to the world, the best results of his labours in his valuable and classical writings. He says,—

"The temple of science has not been raised to its present commanding height, or decorated with its beautiful proportions and embellishments, by the exertions of any one country. If we obstinately shut our eyes to all that other nations have contributed we shall survey only a few columns of the majestic fabric, and never rise to an adequate conception of the grandeur and beauty of the whole. Our insular situation, by restricting intercourse, has contributed to generate a contempt for foreigners, and an unreasonable notion of our own importance, which is often ludicrous, always to be regretted, and, in many cases, strong enough to resist all the weapons of reason and ridicule. We should consider what we think of these national prejudices, when we observe them in others; when we see the Turks summing up all their contempt for their more polished neighbours, in the short but expressive phrase of "*Christian dogs*," and the Emperor of China accepting presents from the King of England, because it is a principle of the Celestial Empire to shew indulgence and condescension towards *petty states*.

Science requires an expanded mind—a view that embraces the universe. Instead of shutting himself up in an island, and abusing all the rest of mankind, the philosopher should make the world his country, and should trample beneath his feet those prejudices which the vulgar so fondly hug to their bosoms. He should sweep away from his mind the dust and cobwebs of national partiality and enmity, which darken and distort the perceptions, and fetter the operations of intellect. If the love of science and liberal views are not sufficient to repress the noisy obtrusion of national claims, considerations of policy may furnish the motive. The country which has really done the most for science, will certainly be the last to assert its pretensions; and a readiness to allow the merits of others will be the most powerful means, next to modesty and diffidence, of recommending our own to attention."

It is, however, very easy to fall into this habit of national partiality, or rather it is difficult to avoid it: Richerand when speaking of the English, says—that "they are too proud of their Bacon, their Locke, and their Newton, and vainly aspire to a superiority too universal;" yet he immediately after, is disposed to persuade us that J. L. Petit was superior to Cheselden, and that John Hunter cannot be compared with Desault. If we could suppose that scientific men were influenced by current popular prejudices, or tinctured with the lasting animosity resulting from the events of war, we might be disposed to regard Richerand as somewhat biassed in this way for the date of his writing was such, that the bones of Waterloo scarce whitened the plain, which as yet was steeped with blood.

Without multiplying these remarks, let us remember the expression of Burke that "he who calls in the aid of an equal understanding, doubles his own; and he who profits of a superior understanding, raises his powers to a level with the height of the superior understanding he unites with," for it suggests the policy of doing justice to our neighbours, and taking right advantage of their labours at the same time.

As we have preferred the discussion of the duties and necessary attainments of the surgeon to the early history of our art for the greater part of this discourse, we may, for a moment, direct our attention to observations which have been made on such subjects, and which deserve to be treasured in your memory.

The well known French writer, Martinet author of the valuable little work on Pathology, when speaking of the qualification of the Medical Observer, says "Whoever wishes to extend the boundaries of science, should commence his education, by acquiring a perfect knowledge of the Greek and Latin languages and should then proceed to learn the modern languages, particularly the French, Italian and German. This is necessary to enable him to study with effect the many excellent works, published by our neighbours; and (should he visit those countries) to observe with advantage their clinical practice, and form an accurate estimate of their modes and principles of treatment.

The Observer should acquire correct ideas of several sciences which may be deemed accessary to medicine. He should be acquainted with Chemistry, Natural History, and Natural Philosophy, as he will constantly have occasion to make application of their principles; and if he be ignorant of them, many physiological and pathological phenomena, will appear altogether unintelligible.

The sciences more strictly medical, and therefore indispensable, are, general pathology, physiology, and anatomy, particularly the anatomy of the tissues and viscera in their healthy state, which has hitherto been too much neglected, and which has begun to be properly regarded only, since pathology has been more carefully studied. How can any person know a particular tissue to be diseased, if he be ignorant of its characters in its healthy state? How can he distinguish the effects of disease from those changes which occur after death has taken place, if he does not possess correct notions of each, and of the anatomical characters which are peculiar to them? Until anatomy is studied in this way, disputes and controversies will go on, as they hitherto have done, and medicine will make no real progress towards improvement. These remarks apply with at least equal force to pathological anatomy, without a knowledge of which it is quite impossible to give precise and detailed statements of the various alterations of which the tissues and organs are susceptible, or avoid confounding the different structural lesions which occur in them.

These, however, he continues are not the only requisites which an observer should possess. He should be acquainted with materia medica, surgery, "Hygiene," and above all pathology, without which, he can establish no claim to the character he assumes; and still it is by observation only that he can become a pathologist."

We need not inform you, gentlemen, that all the above named qualities which the good medical observer is said to require, are indispensably necessary to the surgeon; but besides possessing all the attainments which a physician's occupations demand, the surgeon must have some important additional acquisitions to fit him for his peculiar pursuits.

In Martinet's remarks, descriptive and surgical anatomy, are not of course peculiarly insisted upon as of great importance to the ordinary medical observer; they are, however, of the utmost moment to the operating surgeon, who, attempting anything without them, might be compared to an ignorant countryman—who, without apprenticeship or previous study, should at once be dubbed engineer, take his place on the railway, and have the lives of a whole train entrusted to him.

Fortunately for our profession, as well as for every other, since the time when Martinet penned his little book, the system of general education has been very much improved, and this begins indirectly to tell on the special education of medical men. In the present state of some of the collateral sciences, which it is incumbent on surgeons to acquire, there begins now to be felt a want of a more extended knowledge of mathematics, which has long been regarded as the best source of severe mental discipline, and is, indeed, the grand

enemy of intellectual feebleness, and credulity: we ought gladly then to hail the day, when with better curricula of medical education this, so called, science of demonstration and truth, will be placed at the head of medical pursuits, as it were watching with a keen glance, the condition and progress of all associated studies; then will conviction in medical science, be measured more regularly, by the value of evidence, men will no longer generalise without particulars,—facts will not, without reason, bend to previously established opinions; never mind whence it came, or who were its authors, when theories in the good sense of the term, will be common, founded on inferences drawn from principles which have been established on independent evidence,—but hypotheses exceedingly scarce.

From such observations, somewhat irregularly brought together, you may form some idea of the general and special attainments which we consider the surgeon to require.

The pleasures of anatomical pursuits have lately been much increased by the application of the microscope, and from a notice we observe in the last number of a valuable periodical, the MEDICAL TIMES, it appears that a course of lectures, by Professor Serres, is about to be published in that Journal, "on the Generation of Organs," which will be likely in its connection with general embryology, to throw a peculiar charm upon the study of the anatomy and physiology of development, and afford a ground-work for more scientific zoological investigations.

Before we conclude, let us return for a moment, to matters more peculiarly connected with operative surgery.

This, it must be borne in mind, is merely the manual or mechanical branch of therapeutics, the other divisions being the dietetic and pharmaceutic, and it is of the utmost importance, that we should remember, that a skill to avoid operations, especially, the more painful and mangling ones, is more valuable to the practitioner and to mankind, than the greatest adroitness in manipulation, or the most brilliant surgical display. Let not the surgical student be over dazzled with the sheen of the catlin, or other polished and glittering weapon; but let him ever bear in mind that one of the best and greatest boasts of modern surgery, is the saving of limbs, which our predecessors were accustomed to lop off, so that in the treatment of some serious forms of disease and accident, the other departments of therapeutics have of late, more especially, declared their power and rights; the number of operations being relatively lessened, and the living monuments of imperfect surgery, coming now less frequently in our way.

Indeed it might be said, that the best surgeon is he who cures the greatest number of diseases, with the smallest number of operations, and certainly there can be no comparison between the triumph of the man who has removed a limb boldly and well, and that of another who might have suggested some mode of treatment, by which the member once doomed to amputation, should be saved, and the patient spared the enormous suffering of the operation, and the appalling mutilation which succeeds, "*Operiren heisst: durch operation heilen*," or operating, is curing by operation, is a remark of Jungken, whose name we had occasion to mention before,—and this would form a fitting motto for every work on operative surgery, tending to keep before us the great and good object of operations, and to prevent our esteeming anything belonging to them which has not lasting utility in view.

We have before remarked on the education and training of the hand, but the most adroit and best educated hand in operative surgery, would be dangerous rather than useful, unless guided by a corresponding head; a thorough knowledge of pathology then, and of all the means which assist diagnosis, let us again repeat are indispensable; the surgeon should act like the Captain of Tasso; "Col senno e con la mano;" and as we have not time to enter upon any discussion respecting the *savoir faire* of the profession, let it be once for all remembered that it is equally his duty to think before he acts, and before he speaks.

Before, gentlemen, I take leave of you, and wish you every success that your labours may merit,—and every good fortune that the favour of heaven may shower on your noble career,—let me strongly recommend to you an untiring industry, methodic study, and an ever zealous love of knowledge, remembering in addition to what we have said, these few words of our famed countryman Bacon. "The pleasure and delight of knowledge, it far surpasseth all other in nature. We see in all other pleasures there is satiety; and after they be used, their verdure departeth, which showeth well that they be but deceits of pleasure, and not pleasures; and that it was the novelty which pleased, not the quality; and therefore we see that voluptuous men turn friars; and ambitious princes turn melancholy. But of knowledge there is no satiety, but satisfaction and appetite are perpetually interchangeable."

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

Delivered by C. J. B. WILLIAMS, M.D., F.R.S., Professor of the Practice of Medicine, and of Clinical Medicine, at University College.

(Continued from page 16.)

WE found that in congestion the vessels were *enlarged*, and the motion of the blood *diminished*, so that redness, swelling, pain, and also some degree of heat were present; but in inflammation, the motion of the blood is increased, the sensibility much exalted, the heat considerable, and the secretion increased—the function of secretion is nearly always *impaired* by congestion, so that on the whole we see a great distinction between *inflammation* and congestion. Again, it differs from *determination;* for although in determination the vessels may be enlarged, and the motion increased, and the heat and sensibility exalted, still there is one grand point of difference between it and inflammation, viz., that in the latter there is an alteration in the *products* of the part—it is the tendency to the *exudation of lymph* that especially characterises inflammation. The state of the *vessels* also differs somewhat from that of determination, inasmuch as in inflammation there is *partial obstruction* to the flow of blood, and, as a consequence, partial accumulation giving rise to increased tension and redness. There have been various opinions as to the *causes* of this condition of the vessels. Cullen concluded that the obstruction was owing to spasm of the extreme vessels, and that the "vis medicatrix" struggling against the obstruction, was the cause of the inflammation. But this view is quite out of the question, seeing that there is *no spasm* of the extreme vessels, but rather a *relaxation* or *dilatation*. Hunter knew that the vessels were enlarged, and thought there was something *active* in the process. He called it "active dilatation." Kaltenbruenner had a nearly similar idea, he called it "active or inflammatory erection." Doctors Thomson and Hastings observed, that the immediate effects of the application of an irritant was *contraction* of the vessels with increased motion, which was soon followed by dilatation and diminished motion. These last two observers have rather confounded the effects seen in the *arteries* with those seen in the *capillaries*.

M. Gendrin has shewn that *obstruction* is one of the most important features in inflammation: he also noticed that the *quality* of the blood itself was changed—that the red particles become altered in shape, presenting a ragged appearance at their edges, and that they, as well as the serum containing them, became effused into the surrounding tissues. He states also, that colourless globules were detected in the large vessels, and that if the inflammation was intense, the blood became stagnant, and at length brown, and that some of the red particles became softened, opaque, and, finally, converted into globules of *pus*. Kaltenbruenner says, that if obstruction has not proceeded to stagnation, the motion becomes oscillatory, and that on the subsidence of the inflammation the usual movement of the blood is restored, its former activity being resumed; but if the inflammation continues, and the capillaries remain enlarged, he finds that they present a *tortuous* appearance, and Mr. Kiernan believes that little diverticula of varying shapes are thrown out by the capillary vessels, and that from these diverticula new vessels proceed.

It has been ascertained that the blood flows in greater quantity, and with greater force to and from a part that is inflamed, and that the arteries are enlarged, and pulsate with increased strength. Dr. Alison measured a number of arteries in inflamed limbs, and found that their diameter was decidedly greater than that of the arteries in a corresponding *un*inflamed limb; this proves clearly that the flow *to* the inflamed part was augmented. Again, that there is an increased flow of blood *from* an inflamed part was shewn by Mr. Lawrence. He bled a man who had an inflamed hand from a similar orifice in both arms, and found that from the arm of the inflamed side he obtained nearly three times as much blood as from the uninflamed one (in the same period.)

I have recently found that a stimulus applied to the web of a frog's foot, causes contraction, and diminished motion in the vessels to which the arteries lead, followed speedily by *dilatation* of the vessels, and an *increased* flow through them. If the stimulus applied be too powerful, it causes sudden enlargement of the capillaries and stagnation of their contents—these vessels also became *tortuous*. The arteries do not seem at first to partake of the increased calibre, but, in a few seconds, they enlarge and appear multiplied in number—the blood gushes forcibly along them, and continues pulsating at the opening of the capillaries, which are so much congested as to prevent the passage of the arterial blood through them, and consequently it has to find its way along the *adjoining* vessels, which themselves become enlarged. It is remarkable, that although the force of the circulation goes off through the adjoining vessels, there is still some force applied to the natural channels and communicated backwards from the unadmitting capillaries, which constant effort and repulsion, give rise to the oscillatory movement that I told you Kaltenbruenner has described. The result of this continued attempt at injection is to dilate the capillaries to a greater and greater degree, and if any vessels were previously so small as to escape notice, it is no wonder that they should now become dilated, and be rendered most easily visible. The deductions that we are necessarily led to make from these appearances, are,—1st. That no inflammation can exist without enlargement of the capillaries, and, therefore, that such enlargement, or, in one word, *congestion*, is one of the essential elements of inflammation; and 2dly. That there is no inflammation without enlargement

of the arteries leading to the capillaries of the affected part, or, in one word, without *determination*, which is, therefore, the other element of our subject. Now these two elements combined, viz., congestion and determination, will, if not soon relieved by secretion, flux, or hæmorrhage, inevitably cause *inflammation*.

We may ask, *why* is there a retarded flow of blood under these circumstances? How comes it that the blood should stagnate? I must confess, gentlemen, that this is the *sticking* point, both to the *red* particles, and also to the physiologist and pathologist. Why, again, should the functions of the part be exalted if he circulation is obstructed? Some have imagined that the blood possesses a self-motory power, whereby it may be attracted and revived, and that in the case of *determination*, the vital fluid is determined to go to a particular portion of the system, and thus the particles become aggregated in certain situations.

It is rather a singular explanation, and evinces a very strong determination on the part of its author to get over the difficulty. For my own part, I have never seen any motions in the blood that might not justly be attributed either to the action of the heart, or to certain physical properties. I shall proceed with this subject at our next meeting.

ORFILA'S LECTURES ON ARSENIC.

Containing an Account of the different Operations performed upon the Body of Laffarge.

Collected and Translated by JOHN DAL PIAZ, Pharmacien and Laureate of the School of Paris.

Lecture VII.

Gentlemen,—If you were interested in the question of the purity of reagents, in that of arsenuretted soils, and in the solution of the following problem, *viz.*, How can it be recognized that arsenious acid has been introduced into the digestive canal after death?—you will, I am persuaded, be still more interested in the

Question of Normal Arsenic.—It is two years since Monsieur Couerbe asserted in my laboratory, and in presence of Messrs. Lesueur and Barruel, that normal arsenic existed in human bones: in October, 1839, Monsieur Couerbe again repeated this assertion, though somewhat different. He then said arsenic was developed during the putrefaction of bodies.

The first of these assertions was founded upon the following experiment:—M. Couerbe submitted to the action of Marsh's apparatus, some bi-phosphate of lime, which had been a long time in my laboratory, and carelessly preserved; from this he obtained real arsenical stains. Wishing to verify the results of the experiments made by this gentleman, I made several analyses of bones obtained from the pavilions of the faculty, and from these I obtained arsenic, which was inspected by Messrs. Bussy, Chevalier, and Dumas. I was convinced from this, that normal arsenic existed in human bones, and even announced it as a well-confirmed fact. I had quite given up the idea of pursuing this subject any further, when, in November last, I had to perform a series of experiments before a commission of the Royal Academy of Sciences; amongst them, were those relating to normal arsenic.

My experiments were performed exactly as before; but, to my great astonishment, I was not able to obtain a trace of arsenic, and, after many fruitless attempts, I was obliged to request a delay of eight days; this was immediately granted. During that period I made numerous analyses, but all were attended with negative results; in no instance could I find arsenic in the bones collected for that purpose. In what way was I then to account for the presence of arsenic detected by the first experiments? I was certain all my reagents were of the utmost purity, but I was not convinced of the purity of the bi-phosphate of lime* which had been used by Monsieur Couerbe; finally, I thought the bones I had operated upon at first, might be those of individuals who had been under arsenical treatment, such as is prescribed at the hospital Saint Louis, or again that they might have been the bones of a person who had been fed upon bread, prepared with wheat which had been limed with arsenious acid. I was, indeed, quite astounded, and did not know what to think.

I next procured the bones of a man who had lived and died in the department of La Somme, where the wheat for sowing is always prepared with arsenious acid; but these again yielded no arsenic. Seeing this I was induced to change my opinion upon the subject, and, after numerous other experiments, I sent a memoir to the academy; this has not yet been unsealed.

It results from what I have just stated, that arsenic cannot be detected in bones when these are in a normal state; consequently all objections resting upon arsenic in a normal state, and made in the interest of an accused, are of no value.

Messrs. Flandin and Danger asserted some time after I had made my researches, that arsenic could not be detected in the bones, the viscera or the muscles, however delicate the re-agents might be for detecting this poison. But is it possible, as it is stated in a letter published by Monsieur Couerbe, that this metal is formed during the putrefaction of soft parts of the body? Certainly not! The most delicate investigations have never been able to demonstrate this as true, and I shall content myself by citing an example to prove the contrary of this gentleman's assertion.

The body of a man suspected to have been poisoned by arsenious acid was exhumed by order of the judiciary authorities of Bourbon Vendeé the corpse was in a very advanced stage of putrefaction (it had been ten months under ground) when it was sent to us for examination, and, notwithstanding the most delicate means were resorted to, not a trace of arsenic was discovered. Now if it were true, as Monsieur Couerbe states, that this metal is developed during putrefaction, we ought certainly to have found it in this case.

We shall terminate the medico-legal question of arsenious acid, by endeavouring to refute the last two objections. The first is contained in the following question:—May not the arsenic found in a body have been administered daily for some time as a medicine? Gentlemen, I can affirm, if an individual under arsenical treatment has abstained from the use of this medicine two months, or even six weeks, previous to his death, not the slightest portion of arsenic can be detected in any parts of the viscera; all will have been voided by the urine, the perspiration, and by the stools. But supposing such a case really occurred, then the experimentor could only affirm that arsenic existed in the body, and if the tribunal wished him to declare whether he considered it a case of poisoning or not, he must be assisted by the medical man who attended the deceased during life. Being thus acquainted with the length of illness, the symptoms observed, the lesions found at the *post-mortem* examination, &c., &c., he may then safely draw a rigorous conclusion.

The second objection is one offered by Monsieur Paillet upon the trial of Madame Laffarge; this same objection might certainly again occur.

Monsieur Paillet wished to know whether the arsenic found in Monsieur Laffarge's body, might not have been derived from the minerals daily melted in his furnaces, whether the volatilized arsenic might not have been absorbed by the lungs during respiration: this objection has been much noticed, nevertheless it is of no value, and may be easily refuted.

In the first place, the presence of arsenic could not be detected in the minerals employed at the forges of Glandier; but admit for a moment that arsenic did exist in combination with the minerals, it is certainly impossible the vapours could be inhaled; let us only reflect upon the mode of procedure for extracting the metal. The ore is strongly heated in a large vessel, which is placed upon a high furnace: the vapours produced could not influence Monsieur Laffarge, who was at the base of this furnace, probably at a distance of 100 feet from the exhalations, which certainly would not descend to him, but, on the contrary, would be carried off at a great height in the atmosphere. Even suppose again a small quantity of arsenic had been inhaled in this way, which is an absurd supposition, could the poison have been retained in the body for 55 days, during which time he never went near his furnaces? Most assuredly not. We know it would have been entirely voided by the urine, &c., &c.

I believe I have now stated all that is necessary concerning the medico-legal question of arsenious acid, which we have studied rather minutely, and I hope you have derived some beneficial information from what I have endeavoured to explain. I shall now commence upon the

Symptoms observed upon persons poisoned by arsenious acid.—The first and most ordinary symptoms are, nausea, frequent and abundant vomiting, pain in the epigastrium, and occasional stools, particularly in those cases when vomiting is not very abundant. Gentlemen, I cannot proceed any further without saying I consider a medical man is to be much blamed, if being called to attend upon a patient taken suddenly ill, and labouring under these symptoms, he does not immediately ask himself whether it may not be a case of poisoning, but allows the ejected matter to be thrown away.

Unfortunately it seldom occurs that, if the patient is of a high rank, any one will for one moment suspect him of being poisoned, whilst if such symptoms are observed upon an individual of a humbler class, the medical attendant, and others as well, are even too often disposed to see in these, very rigorous indications of poisoning. But I now continue with the symptoms; cramps and convulsive movements, with fever and intense heat of the skin, soon arrive, and if a large dose of the poison has been administered, the skin may be covered with pustulous eruptions, attended with intense thirst; sometimes the patient becomes cold and insensible, the face becomes blue and much swollen, but the most remarkable symptom is the derangement in the circulation: the heart and pulse beat in the most irregular manner. Sometimes the convulsions cease, and are replaced by syncopes, or a false calm; the body becomes covered with a cold perspiration, the pulse gradually sinks, and finally the patient dies from prostration. Nevertheless, such does not always occur; death often takes place when the patient is a prey to the most violent symptoms, the convulsions may become more and more horrible, in fact he may die in the midst of intense suffering: it has even been observed that the body becomes of a blue colour, as in cases of cholera. This was observed upon Soufflard* who had taken a powerful dose of arsenious acid.

Another symptom to be observed is that of the urinary secretion; the quantity of urine found is not always considerable, generally the patient voids only a small quantity impregnated with the poison. In many cases the urine is red, and tinged with blood, and the secretion is painful; this last symptom was observed upon M. Laffarge. At other times the urine is abundantly secreted, and may be voided without pain. In nearly all cases arsenious acid exists in the urine, particularly when vomiting and purging have not occurred. Another case has been cited, but this very seldom occurs. An individual has been known to have taken arsenious acid at eight or nine o'clock in the morning, and afterwards to have followed his usual occupations until three or four in the afternoon, when he has been suddenly taken ill, and two hours afterwards has died without vomiting anything. Let us now examine the

Pathological changes observed.—Death may ensue from arsenious acid without there being formed in

* This salt is obtained by treating calcined bones, 12 parts, with 9 of concentrated sulphuric acid, and 20 of water. Let these materials be stirred together, and simmered for about six hours; then strain and wash the residue till the water ceases to taste acid. Evaporate the strained liquor, and when reduced to half its bulk, let it cool. A white sediment of sulphate of lime will form, which must be allowed to subside. The clear solution must be afterwards decanted, and then evaporated until it has acquired the consistence of soft honey. It is then taken off the fire, and introduced into wide mouthed stoppered bottles.

* A prisoner who, to avoid the penalty of the law, swallowed a large quantity of arsenious acid during a sitting of the tribunal.

the digestive canal either traces of inflammation, ecchymosis, or eschars, &c. This is not commonly the case; generally pathological changes are very evident, the mucous membrane of the stomach is inflamed as far as the œsophagus, several of the folds of the stomach have a brown appearance, the other parts of the digestive tube being more or less inflamed.

If the poison has been introduced in the state of powder, ecchymosis and even eschars may sometimes be observed. In the stomach of Therese Rigal, for example, there were found about fifty eschars, of the size of a pin's head, although she had vomited continually for nearly five days. In such cases the arsenious acid acts as a caustic.

The heart will generally offer red stains, of the nature of ecchymosis, such as may be observed in the heart of this dog poisoned by arsenious acid. Such are, gentlemen, the questions by the aid of which you may be able, without the least hesitation, to assert as follows:—

In the capacity of a chemist I have extracted the poison I now present to you, and in the capacity of a medical man I have observed the symptoms and pathological lesions which characterize poisoning by arsenious acid. I, therefore, affirm, that such poisoning has been effected. It now remains for us to discuss the best

Mode of treatment to be followed in cases of poisoning by arsenious acid.—The treatment may be divided into two periods; in the first, the poison should be attacked in the stomach by chemical agents, and then evacuated by purging or vomiting. The second period exists when you have not arrived in time to administer the counter-poison, consequently absorption has taken place, and however strenuous your efforts, the patient may die.

In commencing with the first period, we naturally ask ourselves if there really is an antidote for arsenious acid; but before proceeding any further, allow me to explain what may be understood by an antidote?

It is a substance capable of decomposing a poison, or combining with it, at the mean temperature of the stomach, or even at an inferior one, in such a manner as to constitute a new product, which can exercise no deleterious action upon the animal economy. There are two kinds of antidotes; 1st.—those which entirely annihilate the deleterious property of the poison; 2, those which diminish this property in a very sensible manner.

The first are those which, by any operation whatever, will form a new substance. For example, if an individual were to take a certain quantity of chloride of barium, and that sulphate of soda was administered immediately, there would be formed two new compounds—sulphate of Barytes, insoluble, and consequently inert, and chloride of sodium.

The second are those which do not transform the poison into a new product, but combine with it to form a compound possessing much less active properties. For example, an individual has taken corrosive sublimate, and immediately after, albumen is administered; there is then formed a new compound,* having a much less deleterious action upon the economy, nevertheless it is still sufficiently deleterious to cause death in case it should be allowed to remain in the stomach.

These facts being once well established, I again ask if there is an antidote of the first class for arsenious acid?

Unfortunately there is not: the peroxide of iron,* which has been administered sometimes with success, can only be considered as an antidote of the second class.

This peroxide occurs under the 3 following states:

1. The anhydrous peroxide, commonly called colcothar.
2. The dried hydrated peroxide.
3. The hydrated peroxide in magma or jelly.

Of these three the two last are only fit to be used in cases of poisoning by arsenious acid; the dried hydrate should always be administered in preference to that in magma, for it is much more convenient, and can be given in large quantity under a small volume.

It often happens that pharmaciens have no other peroxide of iron than the colcothar, which, in some cases, has been administered to patients. This even occurred during the illness of Monsieur Laffarge, and from that, certain persons were anxious to conclude that the arsenic we obtained was derived from the colcothar. This I will speak of again

The following are the results of numerous experiments:—

Half a grain of arsenious acid was boiled with half an ounce of the hydrated peroxide of iron in magma: in this case the quantity of iron was not sufficient to absorb the whole of the poison. The same weight of the dried hydrated peroxide, mixed with a sufficient quantity of water, was exposed with 12 grs. of arsenious acid, to a temperature corresponding to that of the interior of the stomach, and after a protracted contact of 24 hours, the whole of the poison was absorbed, forming arsenite of iron. If the dried hydrated peroxide of iron acts in such a manner, without doubt its administration will produce good results; it will enable the patient to wait until more efficacious means can be resorted to, as vomiting, &c. If this was not effected, death might still occur, although the action of the poison might be slow; the arsenite of iron thus formed is deleterious; it is attacked by the lactic and chlorhydric acids existing in the stomach, and these, combining with the oxide of iron, liberate the arsenious acid, which is then immediately absorbed. It is for this reason that a much larger quantity of the peroxide than is sufficient to absorb the poison, is recommended; the acids of the stomach, acting in preference upon the non-combined peroxide, do not attack that which is associated with the arsenious acid.

The peroxide thus administered must be evacuated by vomiting, effected by Tartar emetic, or by tickling the throat with a feather: a fresh portion of the peroxide must be again administered, and the evacuation repeated; afterwards operate upon the bowels with castor-oil. Should the patient be under the influence of a strong reaction, copious bleedings must be resorted to. Finally, have recourse to diuretics, by which the poison, if absorbed, may be expelled with the urine; for it has been proved by experience, that, in cases when animals poisoned by arsenious acid have voided a large quantity of urine, they have not died.

Such is, gentlemen, the mode of treatment I advise you to follow. It has been much criticized, the bleeding, in particular, has been much condemned. It has been said that, by bleeding, the life of the patient is unavoidably destroyed. Nevertheless, I can affirm, in nineteen cases out of twenty, when I have bled, the patient has recovered. English medical journals also mention many cases cured by bleeding. But as a substitute for this method, certain persons (amongst whom I may mention Monsieur Jacobini, in Italy, and Monsieur Rogetta, in France,) have tried an Italian mode, founded upon Monsieur Rasori's view of this subject. This gentleman asserts that the symptoms of arsenical intoxication are those of intense asthenia, produced by the action exercised by the poison whilst passing into the circulation, consequently the anti-phlogistic treatment is dangerous; to overcome the symptoms it is necessary to administer broth and brandy.

In the next lecture we shall see if any good can be derived from such a mode of treatment,—for my part, I look upon it as a dream.

* This compound is a combination of albumen, with corrosive sublimate; it is very little soluble in water, but is readily dissolved by an excess of albumen; consequently, the administration of too large a quantity of this substance must be attended with bad effects, in cases of poisoning by corrosive sublimate. This albuminous compound was formerly believed to contain no corrosive sublimate, it was thought that the mercurial salt was reduced by the albumen to the state of calomel; but this opinion is found to be quite erroneous. It is now generally admitted to be a compound of albumen and corrosive sublimate, which, according to Monsiur Lassaigne, is composed of 93.55 parts of albumen, with 6.43 of the mercurial salt.

* This should be prepared in the following manner:—Cause a stream of sulphuretted hydrogen gas to pass for a long time through a filtrated solution of proto-sulphate of iron. This gas will precipitate all the arsenic, lead, magnesia, &c., which might have been associated with the iron salt. Then boil until the solution affords no smell of the sulphuretted gas, and allow it to stand for a day; after which time separate the precipitate by filtration, and evaporate the filtered solution until it has become fit to crystallize; when it must be allowed to stand in a cool place till the crystals are formed.

Collect these, and pour upon them a sufficient quantity of nitric acid to convert all the protoxide into sesqui-oxide. Then, dilute with distilled water, and by adding an excess of aqua ammoniae, a brown gelatinous precipitate will be produced, which, after being washed for a long time with pure distilled water, may then be administered in cases of poisoning by arsenious acid.

It is by exposing this same gelatinous peroxide to a gentle heat, that I obtain the dried hydrated peroxide, which I recommend in preference to the gelatinous, on account of its being more convenient to administer in large quantities.—*From Orfila's Lecture on Iron and its Compounds.*

IRISH INTRAMURAL INTERMENTS.

To the Editor of the 'Medical Times.'

Dr. Sir,—I was highly gratified to perceive that your efforts for the extinction of "intramural interments" have been productive of so unexpected a result as the preparation of Mr. Mackinnon's Bill, yet it surprised me to perceive that by its clauses the operations appear to be confined to England. In this I may be wrong, and if so, you will excuse me for intruding upon you. There is no part of the world in which burial grounds are more neglected than in Ireland, and few places where the effects of such neglect have produced more ill consequences to human health and comfort than in its towns through which (speaking generally of the country) burial grounds are thickly distributed. It would, therefore, be a monstrous error in the application of this measure, if its benefits were not conferred upon Ireland—to which particular I beg the liberty of calling your attention. In clause 6, "the parochial committees of health" are composed of *clergymen and churchwardens only*, which I presume is a positive defect, inasmuch as there should be or ought to be, upon a committee, in whose hands so important a trust is reposed, some individuals whose education embraced the operations of physical nature upon the human constitution, and medical men are generally best informed upon these subjects—the addition, therefore, of a few medical men to these parochial committees of health, would be, in my opinion, an improvement.

On the interment of "eminent men" in "Westminster Abbey, or St. Paul's Cathedral," a few words may not be out of place.

Under any circumstance the burial of mankind under the roof where living creatures so frequently assemble in numbers, is an evil, and ought to be abolished even in the case of "eminent men." A great national building should exist in these countries for the deposit of their illustrious dead, and for the erection of proper monuments to their memories, which should be under the controul of Government only. Westminster Abbey is not the place for such deposits; besides monuments have been refused a place in that celebrated edifice. The late Dr. Ireland, for instance, refused to allow a monument to be erected to one of the greatest poets, next to Milton, which Britain ever had, viz., Lord Byron. To prevent such capricious exercise of power in individuals, and to separate the dead from the resort of assemblies of the living, I think the nation should erect an appropriate receptacle for such mementos, and for the remains of men whose lives have been sufficiently distinguished in its history. There is a man now living, whose name it does not become me to mention, whose glory requires no earthly monument to perpetuate, and whose remains when his country shall be deprived of his services, ought to be *the first* to render memorable such a memento of human greatness, and where succeeding warriors would desire a resting place. Hoping you will excuse this intrusion,—I remain, dear Sir, truly yours,

W. R. Gore.

Cecil Street, Limerick,
Sept. 26th, 1842.

TO CORRESPONDENTS.

Vol VII.—*It is our intention to complete, in the present Volume, the course of twenty-four lectures by Professor Owen, on the Comparative Anatomy and Physiology of the Nervous System—the course by Professor Serres (consisting of about* 10 *lectures) on Organogeny—the course by Orfila, on Arsenic (the last lecture, but one, of which, we give this week)—with the course by Mr. Nottingham, on Operative Surgery. The lectures by Dr. C. J. B. Williams, and Doctor Scoffern, will probably extend to the next volume.*

Mr. Atkinson.—*The note, with the intimation referred to, was received, but the latter was forgotten when the paper came under consideration subsequently. The portion omitted, was omitted on the ground that the best answer to objections are facts strongly evidenced. People do not so much ask, are such things possible? but, do they exist? The last demonstrated—logic tells us the first cannot be disputed.*

Nulli Secundus.—*We believe, but are not certain, that Mr. Dermott, the lecturer, was the editor and principal proprietor of the* Medical Record. *It extended to four or five numbers. Our price and circulation must make all such speculations losses.*

Beta.—*We have heard, from other quarters, of Mr. Jackson's frenzy. Our review of his work was of course just, but marked by much kindness for his inexperience and zeal; and, if in full possession of his mind, he would have felt himself under a serious obligation to us. The young man has evidently just enough of talent to make him conceited, and just enough of active folly to make him an object of anxiety to his friends.*

A Student.—*We know of no* cheaper *mode of passing the first winter session than by confining the entries to hospital practice (3 years), say* £26 10s.—*Anatomy and* Demonstrations, *for the season,* £5 5s.; *Chemistry,* £4 4s., *and* Materia Medica. *These are all the courses* absolutely necessary *for the first session. Of course, without great* reason, *the pupil will not confine himself to these entries. The hospital practice should be entered to immediately.*

A. T. H. T.—*We denied once before that Dr. Weatherhead had anything to do with the editorship of the* Medical Times. *In consequence of a rumour to the contrary, we once more feel it necessary to asseverate our denial.*

Mr. R. Mason.—*This gentleman furnishes us with what he calls an* important discovery. *He considers the first cause of disease to be ignorance of the art of breathing. We have some recollection of an Irishman, who, extending the principle, more wittily explained by it the phenomena of* death. *The second cause is, ignorance of the uses of saliva! The third, of sleep. Mouth-breathing people are lean, sickly, &c.; nostril-breathers, healthy, &c. The rationale is the increased moisture produced by the latter mode, and which offers the* satisfactory *explanation of these* established *facts.* "Sleep," *adds our author,* "is produced by keeping the mouth open, consequently prevented by keeping the mouth closed, the saliva-passages, by the first process, being kept dry." *Here is* "*Sleep at Will*" *produced by a very simple process. We are promised further details, but must decline them, on the plea that those already given are likely to completely appease our readers' curiosity.*

Mr. B.—Morus—Mr. H. C.—Academicus—Carus Redivivus, — Investigator — Anti-Humbug, — Petrus—A Quack Doctor—An Owner of a Burial Ground—A. B. C.—A King's College Student—Anti-Toddite,—*declined for want of space.*

Will Scrutator *scrutinize his own conscience before asking us to publish such details—and so unsupported—against an unassuming, and, we believe, extremely well-meaning medical practitioner.*

Sigma *sends us an authorized account of the offer made to him (an extremely experienced and well educated apothecary, with the best recommendations) by a gentleman proposing to have his services as an assistant.* "After walking four miles," *he says,* "and waiting forty minutes, I had some converse with a party calling himself a gentleman, who lives not more than 100 miles from Finsbury, and has a branch establishment (a shop) not 50 from Bethnal-Green Road—and was astonished at the liberality of his offer for such very trivial services as were required—the duties being merely 'superintending' and 'pushing' the 'retail business,' from 7 morning till 11 night—dispensing the medicines—attending counter practice, casualties, and midwifery for a public institution—besides furnishing the house, PAYING THE TAXES, and feeding and clothing myself,—for FIFTY POUNDS A-YEAR!!! *The poor assistant is a married man too. Alas! for our respectable profession!*

O.—*We hope yet to give the conclusion of the paper referred to. The delay originates in a breach of engagement, over which we could exercise no useful control.*

H. B. W. *sends us a strongly-written protest against the delay in the publication of* "*Turner's Chemistry*" *and* "*Copland's Dictionary.*" *He is particularly anxious to know whether the fault lie with the authors or publishers, and, in either case, to have it remedied. Part 5, No. 4, of Turner's work, was promised, he says, for Autumn,* 1841, *and is not yet published, commencing the Winter,* 1842!

Dr. Scoffern's Lecture, *our* Weekly Periscope, *and our* Extracts from the German and French Journals, *are unavoidably postponed till next week.*

Other correspondents will be answered next week.

ERRATA.

In consequence of the haste with which our first impression was sent to press last week, several typographical errors were left uncorrected. The page of "Medical Mems," binding in between pages 6 and 7, should have been numbered 7 and 8, instead of 6 and 7. The other errors are so obvious, that they may be safely left to the correction of the reader.

THE MEDICAL TIMES.

SATURDAY, OCTOBER 8, 1842.

Quem vero arripuit, tenet, occiditque legendo
Non missura cutem nisi plena cruoris hirudo.

* * * * *

Qui studet optatam cursu contingere metam
Multa tulit, fecitque puer; sudavit et alsit;
Abstinuit venere et vino.

THERE are three aspects in which the present session invites attention; the lecturers—the pupils—the corporations. A word or two on each.

Having very recently discharged our bile on the mode of election and general character of the attainments of our lecturers, we may just now leave them out of sight, to say something on a subject of, perhaps, more immediate importance—the *lecturers' duties.* And what are they? In many—alas! too many instances,—the ready answer for the FIRST, is to RESIGN. Numbers of them stand in the places of better men, capable of teaching higher truths,—and to the extent of their unasked, unrequired, but not unobtrusive inferiority, are they accessaries to the virtual extermination of truths—and guilty agents in the manufacture of mischiefs,—in one word they are negative, but real calamities, to their pupils and society. But it would be useless to ask from those we deal with, so stupendous an exercise of conscientiousness, requiring in its agency so impossibly large an absence of vanity and self-love. We must content ourselves with appealing to them, that if they will not give way to higher mental powers—they will at least make the best use of their own. Their pupils have a virtual title to a certain stipulated portion of their time—their knowledge,—and their active industry and labour,—a title, whicl can only be impugned or disregarded witl a proportionate want of fairness, good faith, honour, and common honesty. Ir science, as in everything else brought tc market—there is a certain amount, and a certain quality, which is the purchaser's fair money's worth; and whatever is giver less, or worse than what is thus reciprocally bargained for—is so much swindled. There is this additional circumstance, however, in *medical* science—that health and life, and of immortal beings too,—hang on every step of the descending path of diminution or deterioration! We say then lecturers do your duty. Give to you lectures the importance which, under all circumstances (for evil, if not for good), mus attach to them. Give time to their carefu preparation. Adapt them to your audience in composition and delivery. Be punctua yourselves, and insist on regularity from your pupils, and let the last week of you courses shew as much attention to you duties as the first. To the *gentleman, th man of honour*, the last of these hints i useless; for his sense of personal dignity will preclude his presentation of himsel before his class, as an inconstant, or shuf fling, or mercenary character, as one mor or less attentive, as he is further o nearer removed from the period of pecu niary remuneration. If we would lenc force to our recommendations we would beg lecturers to remember that no where thar in medical teaching is honesty a wise policy. A session's well discharged duty tells on his own knowledge and skill—tell on his future year's classes—tells on hi standing with his profession—his practic among the public—his name—reputation —fame—*everything!*

But if neither personal interest—no high and seriously responsible duties have power over the lecturer—if he be deaf t them, charm they never so wisely, the students will do but ill, who passively submit to the wrong. There need be nc insubordination, though that would be a less evil than the *injustice* we are contem plating; the students have only peacefully to unite together, respectfully, but manfully to remind the lecturer by protest or rounc robin of his neglect of duty; if that fail, tc send their signed statement to us for publi cation, and if the evil survive that step, tc form themselves into a committee or asso ciation to try the matter publicly, by legally SUING THE DELINQUENT FOR BREAC OF CONTRACT. This is a new—and pro bably startling recommendation—but it i justified by the glaring instances of negli gences to which students are too frequently subjected; and by a consideration on the evil consequences, which must inevitably arise out of them. An action at law, i tried in many cases which we have hearc of, would be certain of success: and woulc do a world of good.

Taking a hearty interest in the fortune of our younger friends, the students, we wish our space, or a reasonable allowance of patience, could justify our placing before

these gentlemen, one half of the reasons which recommend steadiness, hard study, and perfect regularity to their warmest acceptance. We have watched annual wave after annual wave of students appear and disappear, and if one truth has been more prominent than another among our observations, it is that the student who will not work, *and work regularly and hard*, is in the position of one who has deliberately chosen to be for the rest of his life a knave or scamp. The raised qualifications at the Hall and College, whatever other qualities they may have, have certainly this,—that there is now no *safe* half-attention to duties,—they allow of no very continuous idleness—and we would suggest that gentlemen who are entering to this or that school, ought, *in mere policy*, at once to make their election between a career of entire dissipated scampishness—and entire healthy, steady application to their professional education. It would spare us much hypocrisy of study and save a wonderful deal of time. For ourselves, we have little more hope for the medical student, occasionally about town, drinking, smoking, billiard playing, and *flashily* dressed, than for the absolutely doomed rake. The same well known —well trodden path is before both, marked by some or all the common adjuncts: an irreparably ruined constitution—pecuniary embarrassments—rejection at the Hall and College—an empirical and impoverished practice—an alienated or impoverished family—enlistment in the army—life of degradation and misery,—*violent death!* One important step—the best guarantee of continuous steadiness,—is the student's comfortable inclusion in the domestic circle of some respectable family. A lone chamber after a day's hard study, gives the tavern and the singing-room an attraction, difficult to resist, save by minds of more than ordinary firmness, and enriched with more than usual internal resources. Whenever, therefore, this great moral and mental advantage can be secured by the student—our earnest advice to him is to clutch it. He will not, of course, in making this selection, overlook a due proximity to the hospital he attends. There can be no objection to moderate ambulatory exercise (which, indeed, the student will find essential to profitable study), but the distance should never make the walk an inconvenience. The numerous lectures demanded by the Hall, backed by the increasing requisitions of the College, leave little time to be spent on the *trottoir*. We conclude our hints to the students, with a warning which should be the motto of their note book,—the ornament of their room,—and as inseparable a companion, as the Phylactery was of the Pharisee. EVERY MOMENT MISPENT—IS ONE CHANCE MORE FOR ILL FORTUNE—*an ill fortune that embraces the future fate of both practitioner and patients.*

This session presents us with two features of striking importance, the diminution of metropolitan—the increase of provincial schools. The Hunterian school—the Sydenham school—the Webb-street or Grainger school,—have each ceased to be; and the larger hospital schools have felt so much fear for their vitality, that they have taken this year extra pains to dazzle the judgment—and secure the support of pupils. Where will all this end, and what will be its effect on the London corporations? One thing is certain; that we may prepare for a brisk competition among the London schools—which will bring about a lower scale of prices, and a better system of medical appointments. The two great evils of medical education will thus have worked their own cure.

We have been asked the probable effect which the requisition of an additional year of study, will have on the fortunes of the College of Surgeons? Very trifling. The facilities offered by the provincial schools, will keep up, if not augment, the class of students; and an education at a distance from the College, will not tend to lessen the estimation of its diplomas. On the principle of "omne ignotum pro magnifico" distance will be apt to give an enchantment to the College, which those living near to it, as ourselves, would in vain endeavour to discern—or appreciate. Individually, however, many of the members of the Council are suffering this session from an unusual diminution of entry fees; and, the only consolation we can extend to them is, the expression of a hope, that their punishment may not extend to more than its present amount,—about the tenth part of their deserts. If, while they had the power, they had adopted a better system of government, London would be shewing a better list of schools,—and a larger class of students.

RECOLLECTIONS OF LIVING MEDICAL MEN.

ANTHONY WHITE, DR. BRIGHT, DR. HAMILTON ROE.

A VOYAGE up the Rhine prevented Probe completing his sketch of the medical officers of the Westminster Hospital as soon as intended. They sadly complain of the torturing state of suspended animation in which they have been kept.

By a remarkable coincidence we find we finished our last sketch with a President of the College; we have now the pleasure of commencing with another. ANTHONY WHITE is quite a different man from George James Guthrie, whom he succeeds. He is, in every respect, a perfect Antithesis. He is about 55 years of age—a stout, comfortable, farmer-like looking personage, of ordinary height, and of ordinary mien; a good-natured face, with rather a pre-possessing, intellectual forehead, upon which the perceptive and reflective organs are well marked. Tony Lumbkin, as some of his friends call him, from his careless, and indifferent manner and attire, is generally considered a good practical surgeon, and has been a good operator.

In his public functions, lazy and indolent, as the Fat Boy in Pickwick, his visits to the hospital are few and far between. When, however, by an unusual and desperate effort, he opens his mouth, his clinique or oral instruction is invaluable. "He drops molten gold—he shoots pearls;" but such an occurrence is an era in the reminiscences of the pupils. He has taken a degree in Cambridge, and has an extensive and aristocratic practice in the West-end, and in the neighbourhood of Parliament Street, where he lives, without even writing, advertising, or puffing for it.

In the time of Quen Anne, there was a class of Politicians, called 'Whimsicals,' who were never in one mood of mind long. In the medical profession there is a similar class now, with this difference—that the latter change and shift their opinions as their interest suggests:—the worthy Tony has been every thing by turns, and nothing *long*. His views were wisely influenced by the prospects that lay before him. When distant from the eminence which he now occupies, they were marvellously comprehensive *indeed;* but as he neared the object of his idolatry, they became very narrow and circumscribed; every step he took towards the road of his greatness, was a confirmation of the correctness of his opinions. "Some achieve greatness; others, have greatness thrust upon them." Not that his passiveness—his good-natured easiness of disposition —his oriental homage to the powers that be, did not deserve some token of regard—some reward. His readiness to oblige his friends—his holy zeal to do battle for the cause of his company—insured his elevation in the rotation of collegiate honors. Some might suppose, that the absence of any literary or scientific labours, or of any intellectual evidence of high and commanding talent, on the part of the candidate, might prove an obstacle to his ambitious aspirations. In this seat of congenial dulness, "a fellow-feeling makes us wondrous kind." A negative merit—a recommendation in their eyes —guaranteed the votes of the majority of the Council. In vain you search the records of the College—the Annals or Archives or medicine—for the name of White. No brochure—no article,—no essay,—no octavo or duodecimo, —exists to enlighten us or posterity upon the views which he entertained, and for which, his admiring and disinterested colleagues placed him in the post of honour and emolument. Hitherto, his talents have been latent. Let us hope that the genius which, has so long slumbered will be evolved, and that seizing the scalpel and tucking up his purple robes, he will engrave his name upon the columns of Fame.

It has been told of a certain cunning Pontiff, that he affected severe bodily indisposition to induce his brother cardinals to elevate him to the chair of St Peter, and that *when elected* he threw off his debility and made them feel the vigour and energy of his rule. May we hope that Anthony, like his illustrious namesake, hath veiled his secret thoughts, and played only a secondary part, making it appear "that he had neither art, nor words, nor worth, action, nor utterance, nor the power of speech to stir men's blood," and, that having gained his object from the impression that his talents could not prove formidable to his friends, he may prove to his mistaken colleagues that he is made of sterner stuff, and wisely presaging the inevitable fate that awaits his obstinate and stupid comperes attempt to effect, and nobly dare to do that, which men of greater reputation, shrink from essaying; and which would tend to unite and satisfy and regenerate the profession, and place him for years at the head and front of all its honours? He finds division, envy, jealousy, and imbecility reigning in the camp, treachery ready to undermine its councils, and expediency, whispering concession of such a paltry nature, that it is only to be proposed, then to be spurned. He sees the council like a crazed ship's crew quarrelling in a storm, while their enemies are within gun-shot. Even this figure affords only a faint idea of the fatal

infatuation of the indecision that exists in the Cabinet of the Monopolists.

Under such circumstances, he must be well aware, that a pertinacious refusal to recognise the right of the great body of surgeons to the principle of self-government, cannot be long withheld, and that it would be prudent to earn their good-willby liberal measures. As President, he can throw some weight into the scale, and, as a matter of course, will be consulted in the contemplated changes We trust he will exert it in the right *cause*. They say he is a good scholar, and well versed in the literature of the ancients. In private life he is all benevolence and gentleness. His time has been all zephyrs and sunshine; and the truth of the moralist's observation is realised in him—

Semita certe,
Tranquilla per virtutem patet unica vitæ.

Prosperity, if it be a test of talent, as many deny, has attended on his exertions. Among his other qualities, strict attention to his own interests is conspicuous. If we were to judge by this, we would hold him to be, provided he could rouse from the stupor of his nature, an able politician.

He has hitherto played a very subordinate part in the politics of the College.

Aston Key has truly observed, that the member can hardly be said to have any connection with the College. It is no alma mater to him. He may long for its honours, but they are beyond his reach. He feels that no industry—no exertion of talent, can place them within his reach. Professor Kidd, that noble-minded, and spirited reformer, has urged similar arguments. And lately a very eloquent writer, and original thinker, Mr. Edwards, has remarked that the council in their diploma certify that the members have received a sound, moral, and professional education; yet they deny the judgment or right to elect those who are to govern them. Anthony White, if he be an honest man, must exert himself to do away with this iniquitous state of things. We trust we shall not have to say of him, "Honores mutant mores."

Dr. Bright, the senior physician, the pupils say, and we agree with them, "is a very nice old fellow;" of quiet, retiring, gentlemanly manners. He has an unconquerable dislike of being followed round the wards by the pupils. They are thus deprived of that instruction to which they are entitled, and for which they have paid. He is a man of great reading, and his mind is deeply imbued with the ennobling spirit of the delightful literature of Greece and Rome.

He never lectures or communicates oral information. He has never appeared in print. The results of his extensive experience are lost to the world. He is totally unsuited to public duties. A rich field of observation is allowed to fallow*. It is another instance of the mismanagement of this institution. He has an independent fortune, and resides in Manchester Square. He is generally esteemed by all who have the pleasure of his acquaintance.

Dr. Hamilton Roe, so called, to distinguish him from the many Roes and Does that abound in this overgrown metropolis, is the second physician. If we had lived in Pagan times, we would have earnestly invoked the aid of the Pierian maids before we would have dared to attempt to delineate this mystical compound of physic and divinity.

He unites in his own person the functions of priest and physician as of old. The Egyptian priests practised medicine, and revealed the results of their experience to each other in hieroglyphics. Dr. Roe practises medicine, and preaches in the unknown tongues. It is an union, which some assert, is incompatible; Dr. Roe makes it answer very well. Le Clere discussed the question, whether medicine came immediately from God? Dr. Roe contends in the affirmative, and that he dispenses it. Such an exalted opinion of his ability, have his votaries, that they think "truths divine come mended from his tongue,"

That his knowledge doth attain,
To something like prophetic strain.

He is about 42 years of age. And of a middle height; with an expressive good-natured, and thoroughly Milesian face. He was born in the county of Wexford, and is "a good man of Ross." Mrs. Hall, in her tour describes them as a race of people, as shrewd, intelligent, good-tempered, and hospitable as are to be found in the whole island; qualities, which we believe, the Doctor does not belie.

His medical brethren charge him with not being quite professionally orthodox, that he is liable to appropriate to himself the results of the investigations of others, (some of which, have been the subject of warm reclamations) and, that he avails himself of the religious infirmities of his fellow-creatures, especially, of the softer sex; and that they have been made auxiliary to his success in his profession.

We believe him to act from conviction in this respect, to a certain extent. The organ of veneration towers over all the others. We ascribe his fanaticism to it. Before even Irving began his insane bellowings, the Doctor was being employed in laying down the trams of a line or railroad that was to carry only first class passengers to heaven at a great pace, by the most direct road; and in the shortest possible time. The Doctor was sole-director. But as there was more extravagance and novelty in Irving's hallucinations, the railroad was abandoned. One of the doctrines was, that fortune and rank were especial marks of Providential regard on earth, and was a passport to favour in the next. It was a new system of evangelical selecticism. The Doctor, now that his great master is no more, holds forth to enraptured Countesses and Dowager Duchesses, who flock like geese to hear the male sybil cackle. These rhapsodical communions are well attended. He first relieves himself with certain inarticulate sounds awfully guttural; a species of unintelligent ventriloquism—then violent convulsive action, flesh, as it were, wrestling with the spirit—then inexpressible rumblings are heard—the silence of the grave reigns—the spirit is speaking. Then the prophet, the plenipotentiary, the interpreter, expounds the will, and explains the meaning of the sounds which appeared so unintelligible. It is here the Doctor shines. He seems touched with Ithuriel's spear; he is warmed with celestial fire. The metamorphosis is so extraordinary, that his intimate friends can hardly recognise him. His action animated, the eye meteoric and instinct with life, kindles, dilates, illuminates his gestures, and spurning the elegant and dignified gracefulness of the stage or rostrum, like the inspired priestess of antiquity on her tripod, he rushes into intense earnestness, carried away, with the whirlwind of his own eloquence. His words rush forth in a tornado; his frame shakes with convulsions; he is terribly in earnest; he is battling inwardly with the Prince of Darkness, and Nature is almost exhausted with the struggle. Anon he lessens in vehemence his fiery energy slackens—his strong devotion involved in pleasing phraseology thrills through the ladies. They are touched with his eloquent electricity. It is contagious animal magnetism. He holds their souls suspended in the blood emotions of a varied character,—enraptures these dear devout susceptible tendrils of humanity and their sympathies, like conducting rods, carry off the excess of his inspiration, and relieve much the excited prophet.

Probe.

* Rather to lie waste, every days neglect being another stage of loss and deterioration.—Ed.

CURABILITY OF CONSUMPTION.

(To the Editor of the 'Medical Times.')

Continuing my practical cases, permit me to mention that in January 1837, Mr. Swain, between 50 and 60 years of age, a confidential clerk in the employment of Messrs. Betts & Co., was seized with influenza. Dr. Ramadge was called in to see him about six months afterwards, when his lungs had been pronounced tuberculated by Dr. T. Davies, who had formerly been his apothecary in Whitechapel, and now regarded his case as hopeless. The only recommendation given by the latter gentleman was to leave town, which Dr, Ramadge disapproved of, as his legs were dropsical, his breathing extremely difficult; there were violent fits of coughing, in which large quantities of purulent matter mixed with blood were brought up. A simple change of air could not remove such a formidable train of symptoms. Without entering into details, it is only necessary to say, that the treatment was conducted on the principle of establishing a wholesome relation between inspiration and expiration, and of meeting constitutional symptoms by appropriate medicines. In about three months he recovered, and resumed the duties of his situation, after an absence of nearly a year.

Mr. A— Deputy-alderman of one of the wards of Cripplegate, consulted in 1834 Dr. Davies for consumption, who advised him to go abroad at the same time intimating to Mr. Stone, the general practitioner in attendance, that he would never recover. He wintered in Nice, and returned home early in the ensuing summer. From inquiries by Dr. Ramadge into the case and its past history, it was discovered that he had gone away with catarrh and a cavity, and returned with the latter only, losing thereby his best protection. He was at this time perspiring at night, and expectorating sanguineous purulent matter. The treatment adopted involved the use of the mechanical process: his chest expanded, the cavity healed up, and all the symptoms disappeared gradually. Two years afterwards, he declared to Dr. Ramadge who was called in for an attack of influenza, that he had never enjoyed better general health, and that all traces of his old disease had vanished.

A child named Ann Cooper, about six years old, residing near Bartholomew's Hospital, daughter of the sextoness of St. John's Church Clerkenwell, was in 1827, brought to Dr. Ramadge under empyema, which had made for itself an opening about two inches below the left nipple and discharged freely for several months, till she had lost at least two or three times her own weight. A cavity had been previously ascertained to exist in the summit of the left lung. Dr. Davies, on being asked his opinion, held out no hopes but merely laid claim to the credit of having seen many such cases, though they are of very rare occurrence. This child was frequently shewn by Dr. Ramadge to his pupils of whom I was one, being considered interesting from its infrequency. She remained in stationary ill-health for many months till at length she was seized with measles, which our preceptor regarded as a favourable occurrence, as it would exert a beneficial influence on her old complaint. The result was that the catarrh which accompanies measles expanded the lungs; the chest, which before hardly measured twenty inches in circumfer-

ce, in two months increased more than three
ches, and the discharge ceased. I have
ely heard that she is still alive and quite
ll. In his lectures at the London Hospital,
. Davies was accustomed to say that he never
ew but two instances of recovery from con-
nption, though some of his pupils men-
ned that they had known cases abandoned
him do remarkably well; and numerous
tances such as those given above, were to
found in the single locality selected.
My object in giving these cases with the
narks attached, is not to present the names
individuals, or their practice, under invi-
us contrast, but to prove what really can
accomplished by the conjoint powers of na-
re and art.

PHILANTHROPOS.

STUDENTS' COLUMNS.

addition to the regulations of the various exa-
ining bodies given late week, we present, at the
quest of a correspondent, the following:—(The
y regulations may be seen in No. 152, Vol. 6.)

REGULATIONS OF THE
ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Every candidate for a diploma in medicine,
on presenting himself for examination, shall
oduce satisfactory evidence—

1. Of unimpeached moral character;
2. Of having completed the twenty-sixth year of his age; and
3. Of having devoted himself for five years, at least, to the study of medicine.

The course of study thus ordered by the College,
mprises,—Anatomy and physiology, the theory
d practice of physic, forensic medicine, che-
stry, materia medica and botany, and the prin-
ples of midwifery and surgery.

With regard to practical medicine, the College
nsiders it essential that each candidate shall
ve diligently attended, for three entire years,
e physicians' practice of some general hospital
Great Britain or Ireland, containing at least
e hundred beds, and having a regular establish-
ent of physicians as well as surgeons.

Candidates who have been educated abroad will
required to show that, in addition to the full
urse of study already specified, they have dili-
ntly attended the physicians' practice in some
neral hospital in this country for at least twelve
onths.

Candidates who have already been engaged in
actice, and have attained the age of forty years,
t have not passed through the complete course
study above described, may be admitted to exa-
nation upon presenting to the censor's board
ch testimonials of character, general and profes-
onal, as shall be satisfactory to the College.

The first examination is in anatomy and physi-
ogy, and is understood to comprise a knowledge
such propositions in any of the physical sciences
have reference to the structure and functions
the human body.

The second examination includes all that relates
the causes and symptoms of diseases, and what-
er portions of the collateral sciences may appear
belong to these subjects.

The third examination relates to the treatment
diseases, including a scientific knowledge of all
e means used for that purpose.

The three examinations are held at separate
eetings of the censor's board. The *viva voce* part
each is carried on in Latin, except when the
ard deems it expedient to put questions in Eng-
h, and permits answers to be returned in the
me language.

The College is desirous that all those who re-
ive its diploma should have had such a previous
ucation as would imply a competent knowledge
Greek, but it does not consider this indispensa-
e, if the other qualifications of the candidate
ove satisfactory; it cannot, however, on any
count, dispense with a familiar knowledge of the
tin language, as constituting an essential part of
iberal education; at the commencement, there-
fore, of each oral examination, the candidate is
called on to translate *viva voce* into Latin a passage
from Hippocrates, Galen, or Aretæus; or, if he
declines this, he is, at any rate, expected to con-
strue into English a portion of the works of
Celsus, or Sydenham, or some other Latin medical
author.

In connection with the oral examinations, the
candidate is required, on three separate days, to
give written answers in English to questions on
the different subjects enumerated above, and to
translate in writing passages from Greek or Latin
books relating to medicine.

Those who are approved at all these examina-
tions will receive the following diploma, under the
common seal of the College:—

Sciant omnes, Nos, A. B. Præsidentem Collegii
Medicorum Londinensis, unà cum consensu So-
ciorum ejusdem, auctoritate nobis a Domino Rege
et Parliamento commissâ, examinasse et appro-
bâsse ornatissimum virum, T. S. et ei concessisse
liberam facultatem et licentiam tam docendi quam
exercendi scientiam et artem medicam, eidemque
summis honoribus et titulis et privilegiis, quæcun-
que hic vel alibi Medicis concedi solent, intra
auctoritatis nostræ limites frui dedisse. In cujus
rei fidem et testimonium, adjectis Censorum et
Registrarii chirographis, sigilum nostrum commune
præsentibus apponi fecimus, datis ex ædibus Col-
legii die mensis anno
Domini millesimo octingentesimo.

(Signed)

———
——— } Censores.
———
———
——— Registrarius.

STATUTES OF THE UNIVERSITY OF EDINBURGH RELATIVE TO THE DEGREE OF M. D.

Sect. I. No one shall be admitted to the exa-
minations for the degree of doctor of medicine who
has not been engaged in medical study for four
years, during at least six months of each, either in
the University of Edinburgh, or in some other
university where the degree of M. D. is given;
unless, in addition to three anni medici in an uni-
versity, he has attended, during at least six winter
months, the medical or surgical practice of a
general hospital, which accommodates at least
eighty patients, and during the same period a
course of practical anatomy: in which case three
years of university study shall be admitted.

Sect. II. No one shall be admitted to the exa-
minations for the degree of doctor who has not
given sufficient evidence,—

1. That he has studied, once at least, each of the following departments of medical science, under professors of medicine in this or in some other university, as already defined, viz.:—anatomy, chemistry, materia medica and pharmacy, institutes of medicine, practice of medicine, surgery, midwifery and the diseases peculiar to women and children, general pathology, practical anatomy (unless it has been attended in the year of extra academical study allowed by Sect. I,)—during courses of six months; clinical medicine, that is, the treatment of patients in a public hospital under a professor of medicine, by whom lectures on the cases are given—during courses of six months, or two courses of three months; clinical surgery, medical jurisprudence, botany, natural history, including zoology—during courses of at least three months.
2. That in each year of his academical studies in medicine, he has attended at least two of the six months' courses of lectures above specified, or one of these and two of the three months' courses.
3. That, besides the course of clinical medicine already prescribed, he has attended, for at least six months of another year, the medical or surgical practice of a general hospital, either at Edinburgh or elsewhere, which accommodates not fewer than eighty patients.
4. That he has attended, for at least six month, by apprenticeship or otherwise, the art of compounding and dispensing drugs at the laboratory of an hospital, dispensary, member of a surgical college or faculty, licentiate of the London or Dublin Society of Apothecaries, or a professional chemist or druggist.
5. That he has attended, for at least six months, by apprenticeship or otherwise, the out-practice of an hospital, or the practice of a dispensary, or that of a physician, surgeon, or member of the London or Dublin Society of Apothecaries.

Sect. III. No one shall obtain the degree of
doctor who has not studied, in the manner already
prescribed, for at least one year previous to his
graduation, in the University of Edinburgh.

Sect. IV. Every candidate for the degree in
medicine, must deliver before the 24th of March,
of the year in which he proposes to graduate, to
the dean of the faculty of medicine,—

1. A declaration, in his own handwriting, that he is twenty-one years of age, or will be so before the day of graduation: and that he will not be then under articles of apprenticeship to any surgeon or other master.
2. A statement of his studies, as well in literature and philosophy as in medicine, accompanied with proper certificates.
3. A medical dissertation composed by himself, in Latin or English; to be perused by a professor, and subject to his approval.

Sect. V. Before a candidate be examined in
medicine, the medical faculty shall ascertain, by
examination, that he possesses a competent know-
ledge of the Latin language.

Sect. VI. If the faculty be satisfied on the
point, they shall proceed to examine him, either
viva voce, or in writing; first, on anatomy, che-
mistry, botany, institutes of medicine, and natural
history bearing chiefly on zoology; and, secondly,
on materia medica, pathology, practice of medi-
cine, surgery, midwifery, and medical jurisprudence.

Sect. VII. Students who profess themselves
ready to submit to an examination on the first
division on these subjects, at the end of the third
year of their studies, shall be admitted to it at
that time.

Sect. VIII. If any one, at these private exa-
minations, be found unqualified for the degree, he
must study for another year two of the subjects
prescribed in Section II., under professors of medi-
cine, in this or in some other university, as above
defined, before he can be admitted to another
examination.

Sect. IX. Should he be approved of, he will be
allowed, but not required, to print his thesis; and
if printed, forty copies of it must be delivered
before the 25th day of July to the dean of the
medical faculty.

Sect. X. If the candidate have satisfied the
medical faculty, the dean shall lay the proceed-
ings before the Senatus Academicus, by whose
authority the candidate shall be summoned, on the
31st July, to defend his thesis; and finally, if the
senate think fit, he shall be admitted, on the first
lawful day of August, to the degree of doctor.

Sect. XI. The Senatus Academicus, on the day
here appointed, shall assemble at ten o'clock a.m.,
for the purpose of conferring the degree; and no
candidate, unless a sufficient reason be assigned,
shall absent himself, on pain of being refused his
degree for that year.

Sect. XII. Candidates for graduation shall be
required to produce evidence of their having con-
formed to those regulations which were in force at
the time they commenced their medical studies in
an university.

Candidates who commenced their university
studies before 1825 will be exempted from the
fourth year of attendance (Sect. I.) from the ad-
ditional hospital attendance (Sect. II., Art. 3.)
from the necessity of a year's study in Edinburgh
(Sect. III.,) and from any attendance on clinical
surgery, medical jurisprudence, natural history,
military surgery, practical anatomy, pathology,
and surgery distinct from anatomy.

Those who commenced between 1825 and 1831

will be exempted from attendance on general pathology, and also on surgery distinct from anatomy.

Those who commenced between 1825 and 1833 will be required to attend only two of the following classes, viz.:—clinical surgery, medical jurisprudence, natural history, military surgery, practical anatomy.

And those who commenced before 1833 will be exempted from the attendance specified in Sect. II. Arts. 4 and 5.

N.B.—The attendance on Midwifery in an university (Sect. II., Art. 1,) is required of all candidates.

REGULATIONS OF THE ARMY MEDICAL SERVICE.

Candidates for the medical department of the army are required to produce the diploma of either of the Colleges of Surgeons of London, Edinburgh, or Dublin, and the following testimonials :—

Eighteen months' attendance at an hospital of celebrity, where the average number of in-patients is not less than one hundred ; twenty-four months' anatomy ; twelve months' practical anatomy ; twelve months' surgery, or (what is preferred) six months' surgery, and six months' military surgery; eight months' clinical surgery, a complete course of two or three lectures during the week ; twelve months' practice of physic, or six months' practice of physic and six of general pathology ; eight months' clinical lectures on ditto, the same as required in surgery ; twelve months' chemistry ; six months' practical chemistry ; three months' botany ; four months' materia medica ; three months' practical pharmacy, or apprenticeship ; five months' natural history ; five months' midwifery ; five months' natural philosophy.

2nd. The candidates must be unmarried, not beyond twenty-six years of age, nor under twenty-one years.

3rd. Candidates who have had an university education, and have the degree of A.B or A.M., as well as that of M.D., will be preferred, but a liberal education, and a competent knowledge of the Latin and Greek languages, are indispensably requisite in every candidate.

4th. The greater the attainments of the candidates in various branches of science, in addition to competent professional knowledge, the more eligible will they subsequently be deemed for promotion in the service ; for selections to fill vacancies will be guided more by reference to such acquirements than to mere seniority.

5th. The rank of physician to the forces, or assistant-inspector of hospitals, requires, in addition to the knowledge and experience to be gained in the regular progress of study and experience in the service, that the individual should be a fellow or licentiate of the Royal College of Physicians of London, or a graduate of the University of Oxford, Cambridge, Edinburgh, Dublin, Glasgow, Aberdeen, London, or of the Faculty of Medicine of Glasgow.

6th. Although the British schools are specified, it is to be understood that candidates who have received regular education in approved foreign universities or schools will be admitted to examination.

7th. With the exception of practice of physic and clinical medicine by one teacher, candidates must have attended separate lecturers for each branch of science.

8th. Before promotion from the rank of assistant-surgeon to any higher rank, every gentleman must be prepared for such other examination as may be ordered before a board of medical officers.

9th. Diplomas, tickets of attendance on lectures, and certificates of regular attendance by each professor or lecturer, must be lodged at this office for examination and registry at least one week before the candidate appears for examination, and likewise certificates of moral conduct and character, one of them by a clergyman, and that of the parochial minister is desirable. Baptismal certificates are required at the same time ; if the parish register cannot be resorted to, an affidavit from one of the parents, or some person who can attest the fact will be accepted.

10th. The certificate of the teacher of practical anatomy must state the number of subjects or parts dissected by the pupil.

11th. Certificates of lectures and attendance must be from physicians or surgeons of the recognised colleges of physicians and surgeons in the United Kingdom, or of foreign universities.

Note.—All communications to be forwarded "unsealed" under cover, to "The Right Honourable the Secretary of War," with the words "army medical department" at the corner.

REGULATIONS OF THE EAST INDIA MEDICAL SERVICE.

Age.—The assistant-surgeon must not be under twenty-two years, in proof of which he must produce an extract from the register of the parish in which he was born, or his own declaration, and other certificates, agreeably to forms to be obtained in the Office for Cadets and Assistant-Surgeons, Military Department, East India House.

Qualification in Surgery.—The assistant surgeon, upon receiving a nomination, will be furnished with a letter to the Court of Examiners of the Royal College of Surgeons, to be examined in surgery, and their certificate will be deemed a satisfactory testimonial of his qualification ; but should the assistant-surgeon be previously in possession of a diploma from the Royal College of Surgeons of London, or of the Colleges of Surgeons of Dublin or Edinburgh, or of the College and University of Glasgow, or of the Faculty of Physicians and Surgeons of Glasgow, either of them will be deemed satisfactory as to his knowledge of surgery, without any further examination. He is also required to produce a certificate from the cupper of a public hospital in London of having acquired, and being capable of practising with proper dexterity, the art of cupping.

Qualification in Physic.—The assistant-surgeon will also be required to pass an examination by the company's examining physician in the practice of physic, in which examination will be included as much anatomy and physiology as is necessary for understanding the causes and treatment of internal diseases, as well as the art of prescribing and compounding medicines ; and Dr. Hume will then require him to produce satisfactory proof of his having attended at least two courses of lectures on the practice of physic ; and, above all, that he should produce a certificate of having attended diligently the practice of the physicians at some general hospital in London for six months ; or at some general hospital in the country (within the United Kingdom) for six months, provided such provincial hospital contain at least, on an average, one hundred in-patients, and have attached to it a regular establishment of physicians, as well as surgeons. No attendance on the practice of a physician at any dispensary will be admitted.

The assistant-surgeon is also required, as a condition to his appointment, to subscribe to the Military or Medical Retiring Fund at his respective presidency, and also to the Military Orphan Society, if appointed to Bengal.

The assistant surgeon is required, by resolution of court of the 21st May, 1828, to apply at the Office for Cadets and Assistant-Surgeons for his orders for embarkation, and actually proceed under such orders within three months from the date of being passed and sworn before the committee for passing military appointments ; he will then be furnished with an order to obtain the certificate of his appointment, signed by the secretary, for which he will pay a fee of £5 in the secretary's office.

General Cautions.—1st. Notice is hereby given, that should it be discovered at the time the assistant-surgeon is appointed, or at any subsequent period, that his appointment has been obtained by purchase, or agreement to pay any pecuniary or valuable consideration whatsoever, either directly or indirectly, when the appointment is completed, the assistant-surgeon will not only be dismissed and rendered ineligible to hold any situation in the East India Company's service, under the court's resolution of the 9th August, 1809, but all the parties concerned in procuring the appointment surreptitiously, or in disposing of or receiving the same under such circumstances, will subject themselves individually and collectively to a criminal prosecution for a misdemeanor, under the Act of the 49th of George the Third, cap. 126 ; and the court of directors of the East India Company do hereby declare, that they will prosecute any person or persons who shall hereafter be detected in such illicit traffic.

2d. The assistant-surgeons are desired to present themselves to Mr. T. R. Clarke, clerk for passing cadets and assistant-surgeons, at the East India House, with their certificates, properly filled up and signed, by ten o'clock in the morning, or as soon after as possible, in order that they may have their nominations prepared against the committee meet, or the nominating director arrives—in failure of which they may have to wait for several hours, or to come another day.

If an assistant-surgeon produces a false certificate, or the dates are found to have been altered for the purpose of making him appear to be of a proper age, he is rendered ineligible to hold any situation in the company's service.

IN ADDITION TO THE PROVINCIAL SCHOOLS GIVEN LAST WEEK WE HAVE BEEN SENT THE FOLLOWING FURTHER ANNOUNCEMENTS.

LIVERPOOL ROYAL INSTITUTION.—*Anatomy, Physiology, and Pathology,* Mr. Long.—*Anatomical Demonstrations,* Mr. A. Higginson.—*Chemistry and Pharmacy,* Dr. Brett, F. L. S.—*Materia Medica and Therapeutics,* Dr. Duncan.—*Principles and Practice of Medicine,* Dr. Scott.—*Principles and Practice of Surgery,* Mr. Banner.—*Midwifery and Diseases of Women and Children,* Dr. Malins.

MARISCHAL COLLEGE AND UNIVERSITY OF ABERDEEN.—FACULTY OF MEDICINE.—*Anatomy* (*Elementary and Advanced Courses,* Dr. A. J. Lizars.—*Chemistry,* Dr. Clark.—*Materia Medica,* Dr. Henderson.—*Institutes of Medicine,* Dr. Harvey.—*Practice of Medicine,* Dr. Macrobin.—*Surgery,* Dr. Pirrie.—*Midwifery,* Dr. Dyce.—*Medical Jurisprudence,* Dr. Ogston.—Hospital Practice—Daily at 12 o'clock.—The Infirmary contains upwards of 200 beds ; and Clinical Lectures on Medicine and Surgery are regularly delivered by the Medical Officers.

ROYAL COLLEGE OF SURGEONS IN IRELAND. *Anatomy and Physiology,* Dr. Jacob.—*Descriptive Anatomy,* Dr. Hargrave, and Dr. Hart.—*Surgery,* Dr. Wilmot, and Dr. Porter.—*Practice of Medicine,* Dr. Benson and Dr. Evanson.—*Chemistry,* Dr. Apjohn.—*Materia Medica,* Mr. Williams.—*Midwifery and Diseases of Women and Children,* Dr. Beatty.—*Medical Jurisprudence,* Dr. Geoghegan.—*Hygiene,* Dr. Maunsell.—*Botany,* Dr. Bellingham.—*Natural Philosophy,* Dr. Apjohn.—*Comparative Anatomy.*—Dr. Jacob.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.—*Natural Philosophy,* George Lees, A.M., and Mr. Glover.—*Anatomy and Physiology,* Dr. Lonsdale and Dr. Mercer.—*Practical Anatomy,* Dr. Mercer and Dr. Lonsdale.—*Anatomical Demonstrations,* Dr. Mercer and Dr Lonsdale.—*General Anatomy and Physiology,* Dr. Knox.—*Chemistry,* Dr. Fyfe and Dr. Reid. — *Practical Chemistry,* (Three Months' Courses) Dr. Fyfe and Dr. Reid.—*Materia Medica,* Dr. Seller and Dr. Douglas Maclagan.—*Practice of Physic and Pathology,* Dr. Craigie and Dr. Alexander Wood.—*Clinical Medicine* (Mondays, Wednesdays and Fridays,) Dr. Craigie.—*Surgery,* Dr. J. A. Robertson, Dr. Handyside and Dr. J. Duncan.—*Clinical Surgery,* (Tuesdays and Thursdays,) Dr. Handyside.—*Midwifery,* (Three Months' Courses,) Dr. W. Campbell, Dr. Marr and Dr. Moir.—*Forensic Medicine,* (Monday, Wednesdays, and Fridays.) Dr. Skae and Dr. Cormack.

We are glad to hear that Dr. Conolly, of Hanwell, the success of whose benevolent, and at one time thought, chimerical efforts, give him so many claims on the gratitude of the philanthropist is about to publish a work on the best mode of treating the insane.

The Court of Appeal has confirmed the decision of the Superior Court at Marseilles, excepting the prescriptions of physicians from the operation of the recent law of weights and measures.

[H]ymnus poeticus Suae Majestatis Victoriæ, Augustissimæ Magnæ Britanniæ Reginæ, dignissimoque regio illius conjugi Principi Alberto, celebrando felicum conservationes salutem, Dei trigesimi, Maji, 1842, *Sacrutus*, London: M'Gowan & Co. (Feldmann, M.D. Autore.)

"As good almost kill a man as kill a good [bo]ok," and not by a damning silence to be ac[c]essory before the fact to the assassination of [re]ally one of the *best* books of its kind it has [ne]ver been our happy lot to poke our nose [i]nto, we take the liberty of acting towards it [i]*n loco parentis*, and introducing the hopeful [p]rogeny of the German *savant* to the hearts [a]nd affections (need we add protection?) [o]f the society frequented by the MEDICAL TIMES.

Besides this general ground however, for [n]oticing a book, which under ordinary circum[s]tances, would be beyond the pale of our ju[r]isdiction; we may further claim the privilege [o]n the principle that "Nihil *medici* a nobis [a]lienum est," and certainly the *nihil* cannot be *alienum* to us, which from the brilliant coruscations of wit and the stupendous conflagration of genius, exemplified by one of our own brethren, tends to cast a halo of redeeming glory round the whole of that unfortunate profession so long adumbrated by the deep obscurity of the Bœotia in Lincolns-Inn-fields, or the deeper darkness of the stygian pool in Blackfriars. Ever has it been our sacred pleasure to foster the talent which adds to our professional dignity and if need be to drag by a gentle force into the bright day of public administration, the shrinking genius which *born for* the world (if not *by* it) would possibly for ever waste its sweetness without our notice, in an obscure corner on a bookseller's shelf, or probably, less vagrant still, wrap itself up like a hibernating mouse in the contracted foldings of its own modesty, and there sleep out the long winter of its glorious discontent.

Let the disparaging critics be ashamed and flee, who say that Medicine and Parnassus are not akin—that professional latin is more canine than classical. We have had in former days an Armstrong, an Akenside, a Darwin and a Frascatorius; we have now a Wakley who composes English verses by the mile; and a Feldmann who writes Latin dithyrambics to a measure defying all powers of human calculation—prosodial or arithmetical—Yes, a Feldmann lives, and with him a Wakley, and if the ancient poets of our craft have any impudent notion of superiority, we should be glad to be favoured by a descent, to cast up accounts with them, and get them obligingly to hand over to us the balance!

The events described in this poem took place on the 30th of May last, when some miserable urchin who had heard from some Chartist orator that he paid for the Queen, had a "pop at her" with as much nonchalance as he would at a ringdove *us* duly paid for at Chalk Farm. It *appears* to be a congratulatory hymn dedicated to her Majesty and the Prince, on their escaping on that occasion any necessity for the doctor's professional services—a proof we consider, of no mean disinterestedness. We said the poem *appears* to be a congratulatory hymn, because,—and herein perhaps lies the merit of the composition,—from the peculiar syntactical arrangement of the Latin which our poet adopts in his title page we cannot quite grasp the whole of his, no doubt, vastly comprehensive idea. We speak not in complaint of this obscurity of style and thought, which, (avoiding the "assnitur pannus" of Horace) pervades the whole Epic with wonderful uniformity; it doubtless originated in the greatness of the subject. If our poet is obscure, so were the immortal Lycophron, and Apollo himself at Delphos "id est" when like Dr. Feldmann *at home*. Where such obscurity exists, the fault is in ourselves. We belong not to those envious critical dwarfs, who would oblige the great poet to reduce himself and to become as one of those little ones. If the toad with all its puffing is unable to emulate the hugeness of the bull, neither can the bull by any process of starvation or magic lose its nobility and dwindle to the littleness of the toad.

Our poetic friend, like Homer, his prototype, dashes "in medias res" with true poetic fervour: "Arma virumque cano," is not bad but the critic will be puzzled to demonstrate where *lies* its superiority to

Principis excelsæ Fasces, Sceptrumque Foemque
Britanniæ cum periculo obfuscarent! canto
Salvos Victricis Curules; quis solvet mihi
Præcepta terroris *Conjugis*; aut tumidis
Quis de montibus rapiet virides ornos?

Then follows a description of a procession to Buckingham Palace of the magnates of the land, the people, and detachments from all the nations 'from dusky Indus to the Pole.'

Jam ecce Duces magni, populi, frequensque viator
Buckingham protrudit iter:—

To use a vulgarism 'all the world and his wife,' proceed on this congratulatory visit: merry youth and hobbling age, nobility and *snobility*, including of course both the Lord Mayor (civicus prœses) and the muse Calliope (here flatteringly termed *speciosa virago*), a most *amusing* duet! while the rear is brought up by the poet himself, who (if we understand the matter) is drawn by the tumult,—pipe in one hand, and crook—or fragrant weed in the other, from his Arcadian pursuit of feeding lambs in St. James' or Hyde Park. His feelings, by a natural connection, now discharge themselves in a flood of eulogium on British hospitality, and British pre-eminence, in which are not forgotten either Nelson or Napier; Cook or *Villington*, Newton, who, according to our author, beat the Chaldeans by "extricating the deform chaos," or the *other*

Celebresque Dracones!!!
Hectoreosque duces ——
Regni celsosque Colossos, selectosque viros
Patriæque *Albertus!*—doctosque Solones!

We *feel* the beauty of this; a stupendousness booms out of the vast obscure. The "Dracones" we opine are the "Poor-Law Commissioners," with a correct allusion to their "hectoring propensities." The "selecti viri" who follow, are of course select vestrymen; among whom, however, by a poetic *deposuit superbos* is ranked "*Georgius ultimus quartus*," as the author correctly renders the *late George the IV*. By the "Solons" must be meant, we presume, the House of Lords; or, our twenty-one friends in Lincoln's-Inn-Fields.

We thus see that there is nothing commonplace in this production; the subjects chosen are most poetically incongruous—the images most original—the metaphors most bold, *e. g.*

— Occulti Potosi tremuere recessus
Inque suis fulvum foveis *perhorruit* aurum.

or this—

Sauciat abstrusæ turbans penetralia terræ
Fossor—

But we must hasten to the gem of the poem. All scholars remember Homer's catalogue of the ships; or Virgil's list of Actæon's hounds in the Georgics; the enumeration of those important personages, Glaucus, Medori, and Theilsiloehus by the former; and of Sergestas Gyas, and the brave Cloanthus, by the latter poet. How often have these been admired? Yet how pointless and inartistic their introduction, when compared with Dr. Feldmann's "catalogue raisonee" of the political celebrities of the day, with which he concludes. For the benefit of our reader, we extract the passage—

Deus Te inspirabit—*Tuis* Consiliis—
Quamquam Sagacissimus Baro Peel—Comes Aberdeen,
Nec non Palmerston, Russel, Stanley, Ripon, Graham,
Tantosque celebratos Duces, dirige, pacemque
Refer Rectoribus Orbis—Omnes *Te* adorant.
Ipseque Hume, loquax O'Connell pauperes
Patriæ defendens, gaudetque *Salum Tuum*,
Incolæ jubilatque *Magnæ Britanniæ Cor.*

We have thus far occupied our o'er wrought brain in evolving the matter of this poem; let us now look at the manner or mode of versification in which all these sublime sentiments are expressed;—not the least remarkable feature in this extraordinary production. Horace, in his ode, laudatory of Pindar, says of that bard—

Nova dithyrambos,
Verba devolvit, numerisque fertur
Lege solutis.

All this meant for the bold Theban of yore, applies with equal aptitude to the learned Theban of to-day, Dr. Feldmann, M.D. and P.F.C., We are bold to say that never, within our critical experience, did we meet with a poet whose master-mind so effectually freed itself from the trammels of prosody, and all ordinary rule of conventionalism. We note this particularly, because a less gifted, or less original mind, too timid to deviate from the beaten track, would, but too probably, have been content to have adopted, in a Latin poem, the humdrum and monotonous hexameters of which Virgil—(perhaps, unhappily, hampering his genius), constituted his Æneid. The soul of our medical son of song is too dithyrambic in its nature to submit to rule. Like the untamed eagle, he must soar with the wild grace of nature, and the magic power of perfect freedom, or he flies not at all. In this spirit he has invented, a hexameter of his own, one of peculiar construction, *e. g.*

Tales dum tractas excelsa Britanniæ Musas,
Omnibus ergo oblivisceris periculum, place
Populis, rogo, Tuis Augustissimis Prolibus,
Trementi Matri, dantque Tibi primas laudes,
Certeque, longamve vitam, palmasque Camaēnæ.

M. Feldmann, M.D. and P.F.C., with a moral hardihood that marks him out for a great social innovator, has been the first boldly to come forward to shew his supreme contempt for petty grammatical concords (see his Preface and Epilogus), and to put his hoof upon the metrical laws. How glorious and consolatory to a lover of the Juvenile race are his perpetrations of what are vulgarly called "false quantities!" How felicitous the accomodative, the creative power of his genius which makes "frequens" a spondee! and "posse quàm" a dactyl! "Nos Germâni non curâmes quantitatem," is a proverb; which wanted its climacteric illustration till Dr. Feldmann wrote; and with his potent pen decreed the everlasting destruction of the sophistical and arbitrary distinctions of syllables into long and short! Catholic emancipation will go hand in hand down to posterity, with the deliverance worked by Dr. Feldmann, for the schoolboys of England; a hint for convening a meeting of the juniors of Eton, Harrow, and Westminster, to consider the best mode of acknowledging his public services, which we trust will not be overlooked. In conclusion, we congratulate our Author upon his loyal effusion; he evidently possesses the true poetical diathesis. Like Pope, he *lisps* in verse." The secretions of his gifted mind—to speak in the language of a modern school—are evidently tinctured by no prejudice in favour of pounds, shillings, or pence; his is

one of those works which have no chance of profitable appreciation, save from that portion of the human species which follows us posteriorly: and which, if no other book were written, would alone justify Sir Robert Peel's prolongation of the period of Author's copyright: especially, if there could be any provision in the act, that the work shall be printed on paper, like that before us.

MEDICAL REFORM.

To the Editor of the 'Medical Times.'

SIR,—I have perused the judicious remarks of the experienced "Peter Anodyne," with great pleasure, and cannot refrain from expressing my entire concurrence in the opinion, that if the Apothecaries Act were fairly and fully carried out, the great body of medical practitioners would have but little to complain of.

The sale of nostrums, although a serious evil, both to the profession, and the community generally, is not so prejudicial to the interests of the former, as the host of illegal practitioners who are everywhere allowed to prey upon society. I imagine that you would be not a little surprised, accustomed as you are to view the subject, if you were to request your subscribers to transmit you a list of the number of these "quacks" infesting their own immediate neighbourhood. It would be seen, and that very conspicuously, that the Apothecaries' Company have justly forfeited all claim to the respect of its licentiates, and that they are, indeed,in another than a medical sense,men of 'art and mystery,' as they are y'cleped in their certificate.

In the small town wherein I practice, there are six practitioners, two of whom are legally unqualified. These two individuals have each a parochial district assigned to them by the Board of Guardians; and one of them in particular is favoured by the patronage of an influential person, so that it would be exceedingly difficult, if not impossible, for a duly qualified practitioner to displace him. But, this is not all, for within the present month, I was called to visit a farmer in the country, who had been attended during his illness, by not less than three unqualified persons.

Now, if such be the state of this town and neighbourhood, with respect to those who practise medicine, may it not be suspected, that a candid avowal on the part of others, in other localities, would present a corresponding state of things? And, although I hope that such is not the case, both for the sake of the profession generally, and the credit of the Apothecaries' Company in particular, I am tempted to exclaim,—ab uno disce omnes! I say nothing about prescribing and visiting druggists, although there are such in this town, as they possess only a very humble share of respect with the public, and that only among the lower grade; but I do say the irregular practitioners are worthy of attention, because they enjoy a share of confidence, sufficient in degree to enable them to carry on a very lucrative business, which is of course, just so much taken from the income of the regularly educated surgeon-apothecary.

Such are the few facts I have been led to relate, by reading the letter of "Peter Anodyne." How far he is justified in attributing the cry for reform to restlessness, produced by lack of patients, I leave others to decide. But this I may be allowed to say, that to a "grey-headed old man," who has nearly completed his course, the question of reform or no reform, must be equally unimportant. We all know how men in declining years hug established customs, and even learn to love the evils they once deprecated.

I will, in conclusion, mention a suggestion that has often occurred to my mind. If the Apothecaries' Company would set themselves to work, like honest men, having the interests of the profession at heart, to remove the abuses universally felt, and which they have the power to do, they might, by appointing a competent, travelling inspector, to visit every corner over which their jurisdiction extend, do much, very much, to remedy the present aggrieved condition of the profession.

I am, Sir,
Your obedient Servant,
A. LICENTIATE.

Sept. 27, 1842.

MEDICAL NEWS.

ALLEGED DEATH OF A LADY FROM POISON ADMINISTERED BY MISTAKE.—A few days ago a lengthened inquiry was proceeded with before Mr. Higgs, deputy coroner for the city and liberties of Westminster, at the sign of the King of Prussia, in Lower John-street, Golden-square, into the circumstances attendant upon the death of a maiden lady, named Elizabeth Campbell, aged 44 years, residing at No. 19, Golden-square, who it was alleged had died from the effects of poison. On the arrival of the coroner fifteen of the residents of Golden square, &c., were empannelled as jurors, and Mr. Austin appointed foreman, upon which they proceeded to the residence of the deceased lady to view the body, when the following evidence was adduced:—It appeared from the evidence of Ellen Joyce, the cook, and Mary Anne Mason, the housemaid, that the deceased and her sister, Miss Hannah Campbell, resided together at the house No. 19, Golden-square. The deceased had for some time been indisposed, and for several weeks had been confined to her bed; she was attended by Mr. Johnston, surgeon, of Beak-street, Regent-street, who saw the deceased on the forenoon of Friday, the 16th ult., and ordered her a table-spoonful of potash water diluted with a similar quantity of milk. Immediately after he had left, Miss Hannah Campbell asked the cook if she knew what potash water was, to which she replied in the negative, when she was desired to go to a chemist to procure the smallest quantity they would make. The cook accordingly proceeded to the shop of Messrs. Fowler and Co., chemists and druggists, No. 14, Brewer-street, and asked for a small quantity of potash water. The person whom she saw asked her what it was, but she told him she did not know; he then asked her if Miss Campbell was going to wash, but she again told him she did not know. He then told her she could have fourpennyworth, and she put a bottle she had brought with her down on the counter, and left it while she went over the way to a greengrocer's. On her return to the chemist's shop, a bottle rolled up in paper, was given to her, which, on reaching home, she gave into the hands of Miss Hannah Campbell who took it up with her to deceased's room. Miss H. Campbell then, in the presence of the housemaid, mixed a tablespoonful of the stuff with an equal quantity of milk in a glass, and gave it to the deceased, who immediately she had swallowed it, exclaimed, "You have poisoned me—I am all on fire," and she appeared in verygreat pain. Mr. Johnston was instantly sent for, but before his assistant (Mr. Keys) could arrive, the deceased had, through the agony she was in, torn all her clothes off. He arrived in about five minutes afterwards and administered to her a draught, and subsequently some drops in water. On showing him the bottle from which the stuff had been poured, he immediately said, "Oh, dear, this is not the stuff Mr. Johnston ordered," and seemed very much agitated. On leaving the house he took the bottle and the contents with him. The bottle was labelled "Potash water," and bore also a label with Messrs. Fowler and Co's. names and address on it. Miss H. Campbell afterwards told the servants that the bottle contained prussic acid. Deceased continued to get worse, until the commencement of last week, when she rallied very much, but notwithstanding died on Thursday last. Mr. Francis Johnston, the surgeon, deposed that he had attended the deceased since the 9th ult. for an attack of inflammation of the membrane covering the bowels. In consequence of the great sickness she laboured under, nothing stayed on her stomach, and witness ordered her on the 16th ult., to have some potash water, telling her sister, who was at the time at the side of her bed, that it was an effervescing beverage like soda-water, and offerred to write it down, so particular was he in his description; but Miss H. Campbell said it was not necessary. Witness then left the house, and on his return home from Peckham, about three o'clock was informed by his assistant of what had occurred, upon which he immediately went to deceased's residence, and found her in bed, every thing having been done that could be, the poison having been extracted from her stomach, and the proper antidotes were continuing to be applied. The Foreman inquired if Mr. Johnston had seen the stuff that was sent by the chemist for potash water? The witness replied that he had. He then produced an ounce phial, containing a deep yellow liquid, and said the contents was a caustic preparation of potash, of a burning and poisonous nature, and was only used medicinally by drops in a diluted state. Witness had since learned to his surprise, that it was frequently sold by chemists for potash-water. The witness then produced a bottle of the real potash-water, as purchased at the shop of Messrs. Savory and Moore, the well-known chemists of Bond- treet, which completely resembled both in colour and appearance a bottle of soda-water. Examination resumed: At the time the deceased swallowed the stuff she had a dozen leeches on to lessen the inflammatory symptoms, but they became very much increased, and she got gradually worse, until, on the 21st ult., when witness expressed his fears very strongly to her sister, and advised her to have further advice, Mr. Copeland of Golden-square, and Dr. M'Leod, were accordingly called in, who recommended a continuance of the same medicines witness had prescribed, and Dr. M'Leod, continued in attendance until Monday last, when it was anticipated the deceased would recover. She apparently continued to improve until about four o'clock on Thursday morning, when a change took place and she died on the same day. Had since made a post mortem examination of the body, and had found, on examining the stomach, evidence of very extensive and old disease. There were two large sists and a mass of disease generally. The stomach was redder than usual, being ecchymosied in the texture. Witness had also tested the contents. Although he had then found sufficient to account for deceased's death, he opened the head and found a clot of blood in the brain, and, in witness's opinion, she died from apoplexy. The foreman inquired of the witness if that, in his opinion, had been caused by the effect of the poison she had taken? Witness said it was impossible to say, but from the effect she described it had upon her, as of her head going through the ceiling, it might have accelerated her death. The clot was about the size of a nut, and there was also effusion of serum. The sist he had described was an immense one, the slightest pressure on which might have caused apoplexy.—By the Foreman and Jury: The potash contained in the bottle produced, was what is called "liquori potasiæ." A table-spoonful on an empty stomach would act as caustic and produce inflammation, but certainly, mixed with milk, it would be less powerful. It was generally used in bleaching, and was quite different to potash water. The latter was not kept by general practitioners, but was sold by chemists. Could not say that deceased's death had been produced by her having swallowed the potash. Had witness sent out that kind of potash he would have labelled it "Potash liquor—poison." Did not think when he ordered the deceased potash water, that it was necessary to write it down, any more than he should had he ordered her ginger-beer. As a surgeon he would not have sold that kind of potash at all, unless it was diluted.—Mr. Fowler was then sent for, and having been cautioned by the coroner not to say anything likely to criminate himself, said he was in the shop at the time the cook applied for a small quantity of potash water. He asked her what it was for, but she said she did not know. She brought no bottle for it, and having again asked her if it was for cleaning paint, she replied in the negative; and although she said it was for Miss Campbell, she did not say that lady was very ill, neither did she ask for "effervescing" potash water. That kind of potash being much used for cleaning marble or taking out grease, he thought it was required for something of the kind, as she asked for only a small quantity, and gave her the ounce bottle produced, which was the smallest quantity they sold.—By the Jury: Did not think sending the bottle without labelling it "poison," was rather a loose way of carrying on business, as there was nothing deleterious in it. If the whole had been taken, it might probably destroy life. Was in the habit of selling the effervescing potash water, but called aerated potash water. Never knew an article like that marked poison, although

that quantity would destroy life. Had labelled it the same way hundreds of times; all chemists did the same.—The jury said they thought Mr. Fowler had not taken proper precautions to ascertain the object for which the potash water was wanted, and at their request the coroner ordered the inquest-room to be cleared.—After the lapse of an hour the public were re-admitted, and—The Coroner said the jury had returned the following verdict: —"We find that the deceased died from apoplexy, accelerated by taking a spoonful of caustic potash water, instead of effervescing potash water, ordered by her medical attendant. The jury cannot but regret that the medical man omitted to write his prescription; and feel a strong conviction of the impropriety of the chemist selling deleterious liquids without a distinct label of 'Poison' thereon."

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[Exclusively compiled for the "MEDICAL TIMES," from French, Italian, and other Continental Periodicals.]

GERMAN.

KRAMER, Dr. W., *Die Heilbarkeit der Taubheit*—On the Cure of Dumbness, 8vo. Berlin 4s. 6d.——HANKEL, Dr. W. G.—Experimental Chemie, 8vo. Halle, 7s.——BRESSLER, Dr. W., *Kinderkrankheiten*—On the Diseases of Children, Part 3, 8vo. Berlin, 3s. 6d.——FICK, Prof. L., *Lehrbuch der Anatomie des Menschen*—Manual of Anatomy, Part I containing the Organic Form, 8vo. Leipz. 4s. 6d.——KIRCHNER, Dr. E., *Handbuch der allg. Therapie*—Manual of General Therapeutics, 8vo. Kiel. 9s.——KRAUSE, Prof. M. D., *Handbuch der Menschlichen Anatomie*—Manual of Human Anatomy. Vol. I. Part 2, containing the Anatomy of Adults, 8vo. Hannov. 4s. 6d.——BERZELIUS, J. J., *Lehrbuch der Chemie*; Vol. III. *Organische Chemie*, 8vo. Quedl. 11s. (Vol. IV. and last, will be published shortly.)

*** The German works above announced, may be had through Mr. Alexander Black, 8, Wellington-street, North.

MEETINGS FOR THE ENSUING WEEK.

Oct. 11,	Monday,	Medical Society of London, 8 P.M.
12,	Tuesday,	Zoological Society, half past 8 P.M.
13,	Wednesday,	Westminster Hospital Medical Society, 8 P.M.
16,	Saturday,	Mathematical Society, 8 P.M.

ADVERTISEMENTS.

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AGENTS:—Machlachlan & Son, Edinburgh; Sams & Son, Bath; Wilmer and Smith, Liverpool; Fannin & Co., Dublin.

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SUMMARY.

LECTURES ON THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM.

By Professor OWEN, F.R.S., &c.

The transition from the class of fishes to that of reptiles, is evidently made by the lepidosiron, a true fish, according to its scales, its semi-cartilaginous semi-osseous skeleton, its double superior and inferior spines, its spiral intestinal valve, its heart and olfactory organs,—but presenting, among fishes, the closest approximation to reptiles, in the development of the cerebral hemisphere, though inferior, as was said in the previous lecture, in the development of its cerebellum, to the vigorous and locomotive shark. In many respects, as in the vermiform figure of this singular fish, and in the almost abortive condition of its locomotive members, where we see the fin of the true fish reduced to a single-jointed soft ray, there is an evident degradation of the type, preparatory to its assuming that of the higher class. To use a figurative expression, Nature would seem here to take a step back, before springing to higher vantage ground.

The lowest organized of the true reptiles—in their general form and the low condition of their locomotive organs, in their combination, also, of lungs and gills, their lungs resembling the cellular air-bladder of the lepidosteus—more closely resemble the sauroid, than they do the higher-organized selacian fishes. These form the order of reptilia perenni-branchiata.

Another low-organized order, which manifest branchiæ, in combination with lungs only at the earlier period of their existence, as the toads, frogs, and salamanders, are called caduce-branchiata.

The order of Ophidians, so called from the Greek word, *Ophis*, includes all the various tribes of venemous and non-venemous serpents.

The Chelonian order includes the turtles, terapins, and tortoises.

The Lacertian includes all the four-footed lizard-like reptiles which are covered with scales, have simple ribs, and a double penis.

The Crocodilians, which are the highest-organized reptiles, are represented, at the present time, by comparatively few species of the largest of the lizard-like animals, called alligators and crocodiles, and which have their anterior ribs provided with a double head, which have a single intromittent organ, and are the only reptiles resembling the warm-blooded class, in having the ventricles, as well as the auricles, completely divided, and, consequently, a four-chambered heart.

In the reptilian class of vertebrated animals, notwithstanding the very great diversity of external form the cerebro-spinal system presents less variety than in the class of fishes. There is always a greater predominance of the central masses, and especially of those which take no share in the origin of nerves. In the lowest organized reptiles, we find the medulla oblongata more simple, and smaller than in fishes, presenting a large and widely-open fourth ventricle, not more protected by a cerebellum than in the mixinoid fishes. Such is its condition in the syren, the menobranchus, the frog, and the toad. In Ophidians, the cerebellum is of large size, but still inadequate to cover the 4th ventricle. Still smaller than most fishes, the Lacertian reptiles present another step in the development of the cerebellum; but here it is relatively smaller than in the crocodile or turtle, and in neither of these reptiles is it superior in size to the osseous fishes. In no reptile does it present convolutions as in the shark; yet, compared with the cold and vegetative condition of the procreative function in osseous fishes, to which the coitus is denied, the ardour of the sexual impulse in snakes and lizards, which are superior to all other creatures in the physical conditions for the full enjoyment of the act, present a marvellous contrast: with which the condition of the cerebellum, in the hypothesis of Gall, might have been expected to present some relation in its development. How its absolute, as well as relative inferiority in size, is to be reconciled with so marked an advance in the function over which it has been supposed to preside, it is for phrenology to determine. The cold-blooded, air-breathing, vertebrated animals are, however, sluggish to a proverb, and few there are that do not pass a considerable period of their existence in inactive torpidity. In none of these do we perceive any approach to the restless, ever-changing rapidity of course, often to be compared to an arrow darting from the bow, which the finny tribe present to view, and which powers arrive at their maximum in the shark. It would seem, therefore, rather to the low condition of the locomotive energies in reptiles, that the small size and great simplicity of their cerebellum is to be connected.

The optic lobes, which are the next masses of the brain met with, tracing them from behind, forwards, in the class of reptiles, are in the perenne-branchiata species, likewise, of much smaller relative size, than in fishes. They are also single, and vesicular, as in the early embryonic stages of the birds and mammals. They are double, and of larger relative size in serpents and in lizards; still larger in crocodiles; and largest of all in the turtle; but are always smaller than the cerebral hemispheres. They are implanted, as it were, on the anterior prolongation of the medulla spinalis; are double; are united together by a raphe; and are most distinct behind. They always contain ventricles, which communicate together and with the third ventricle below, on which they rest. The pia-mater lining these ventricles, is very vascular; the optic nerve arises by two roots, one from the upper and inner, the other from the lower and outer part of each tubercle.

As we have hitherto seen the cerebellum rise and fall, as it were, with the corresponding exaltation or depression of the muscular masses, so the optic lobes, in their varying development, present a similar correlation with the varying conditions of the visual organs. They are large, for example, in most fishes, in which the outward organ of the sense of sight is of great size. The diminution of the optic lobes, corresponds, in the lower Batrachians, with the rudimental condition of the eyes in these creatures. The resumption, by the optic lobes, of their former proportions in the lower class, is coincident, in reptiles, with the progressive development of the organs of sight, and culminates in the turtle, which have the largest eyes in the class of reptiles.

It is highly remarkable, and furnishes much ground for reflection, to observe the constant preponderance of size of the cerebral hemisphere over all the other parts of the brain, in all orders of reptiles. The cerebral hemispheres are long, and larger than the optic lobes in the Batrachian and Ophian reptiles; they increase in breadth in the peaceful herbivorous tortoises and turtles; acquire their greatest breadth in the crocodile, which is, however, not more combative or destructive than the carnivorous, sabre-toothed, varanus lizard. The base, or posterior part of the hemisphere, hardly reaches the optic lobes in the lower Batrachians, but does so in the higher reptiles. The apex or anterior part of the hemisphere, is prolonged into a hollow canal, and sometimes swells into a small olfactory ganglion. The hemispheres are distinct from each other anteriorly, but are united posteriorly by a commissare, like the soft commissare. They are hollow, the inner surface of the ventricle is highly vascular; its walls are thin; at the anterior and inferior part of the ventricle, there is a small eminence. These ventricles communicate with the third ventricle, which passes downwards to the infundibulum, and upwards to a vascular, pineal canal, the walls of which are not thickened by glandular matter.

The relative weight of the brain to the body does not bear any ratio to its state of development, but is chiefly influenced by the bulk and weight of the species. Thus, in the light and slender lizard, the weight of the brain to that of the body, is as 1 to 160, whilst in the crocodile, which has, unquestionably, a much better developed brain, it is as 1 to 8000.

With regard to the habits of reptiles, and to the distinct and energetic manifestation of these as elements for testing the possible relationship of any particular portion of the supra-ventricular masses, called organs in phrenology, with such manifestations, we have to observe, that so far as is known, the instincts, appetites, and physical phenomena of reptiles are few, simple, and well marked; as a general rule, reptiles are carnivorous, and take their food alive. Certain tortoises and turtles, the iquanos amongst lizards, are herbivorous. Some of the carnivorous lizards chase their prey. The common green lizard may be said to be astute. The chlamydosaurus, and some more common sorts of lizard, threaten and offer battle when alarmed. It is not in the outer or lateral parts of the cerebral hemisphere in the predatory and combative lizard, that we find the corresponding developments. Their brains are much narrower than in the timid turtles.

All reptiles swallow their food gluttonously. Some live together, but there are no regularly organised communities. No reptile manifests any care or fondness for its offspring, unless, indeed, the vague tales of the viper swallowing its brood and disgorging them unhurt when the danger is past, be true. At any rate, the film of cerebral matter, forming the posterior wall of the cerebral ventricle, is relatively as thin in the viper, as in the crocodile, which is stated to watch the shores on which its eggs have been deposited, allured by the blind instinct of preying on its newly hatched progeny. Whether the very low development of the part of the brain, to which the maternal instinct, in regard to the care of her offspring, has been supposed to reside, relate to the almost complete absence of that instinct in the crocodile and other reptiles, we shall, perhaps, be able to determine, by examining the condition of the so called philo-progenitive organ to the class of birds.

Symptoms caused by Cantharides.—An attempt to poison was lately made at Evran (Ile et Vilaine), on two young girls, one aged 22, the other 14, servants to an innkeeper of that town. A tinker named N., who occupied a room near that of the two girls, mixed with their food some powder of cantharides, doubtless hoping to accomplish some abominable design, aided by the properties attributed to this powder; but the violent colics which supervened, soon disclosed the culpable project of N., who has been committed to the prison of Dinan.

A LECTURE INTRODUCTORY TO A COURSE OF ANATOMY AND PHYSIOLOGY.

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Gentlemen,—In the ensuing course of lectures it will be my sincere and anxious endeavour, in conjunction with my respected colleague, to lead you into a knowledge of the art and science of anatomy. The term anatomy, as you probably all know, literally means dissection—a term that refers rather to one of the modes of investigating the science than to the nature of the science itself. But the term anatomy in this literal and restricted signification, expresses very imperfectly the importance of the subject we are about to investigate. Anatomy is properly the science of organization, and how many topics of overwhelming interest and deep study does the word *organization* imply! The world we inhabit may be said to consist of two kinds of matter only, that which is called unorganized or dead matter, and that in which a vital force, a principle of vitality, exists, and from the complexity or peculiar arrangement of its component elements, takes the name of organized matter. Organized beings then form one of the two grand divisions into which all material existences may be arranged. The science of organization is thus necessarily of great extent, for it includes the whole domain of animated nature. It leads to a knowledge of the component parts and intimate structure of all living beings, vegetable as well as animal—it conduces to scientific and just principles of classification among these beings—it gives an insight into the causes of the varied operations external and internal—mental and instinctive—as well as corporeal, which such beings display. It throws a blaze of light upon the nature and treatment of diseases incident to organized structures, and has even been made the stupendous instrument of determining the successive changes to which "the great globe itself" has been subjected since its first formation.

Although the structure and organization of man as a branch of medical study will chiefly occupy our attention in the ensuing course, still our investigations will necessarily take a wide and very extensive range. The structure of man cannot be fully or satisfactorily illustrated by investigations exclusively confined to the human structure. This remark may appear paradoxical, but it is, nevertheless perfectly just, for many of the organs of which man is composed, exist in a higher state of development in some of the inferior animals than in man, and it is only where the organs are found in the highest structural perfection, that their uses and importance in the animal economy can be fully recognised or appreciated. It is obvious, therefore, that in investigating the structure of man we must necessarily refer to the structure of other animals, and our deductions from this source will be neither few nor unimportant. The structure of man, besides, includes all the varied and remarkable changes that take place, from the almost inappreciable atom by which he commences his career of existence till he has attained the full measure of his development. But these conditions, which are fleeting and evanescent in man, are fixed and permanently stamped in the various kinds of inferior animals; so that by studying the modifications of structure as found in these animals, we study, and that under favourable circumstances, the changes of form and structure incidental to human development.

That you may be enabled to form some idea of the subject we are about to investigate, I shall place before you a brief outline of the principal topics that will occupy our attention in the ensuing course. In studying anatomy the pupil is too apt to be contented with a knowledge of the *descriptive* anatomy of the human body. If he can enumerate the bones and all their processes, if he can tell the origin, insertion and uses of all the muscles—if he can name the blood-vessels and their principal branches, and haply condescend upon the relative situation of those vessels concerned in the capital operations of surgery—if he can describe the situation of the viscera, and comprehend the structure of the organs of sensation,—he is too apt to conceive that his knowledge of anatomy is completed. But, however indispensable all this knowledge may be, it constitutes but a small part of the science of organization. That science takes cognizance of all the primary *tissues* or textures that enter into the formation of organized bodies—*the combination of these textures* into organs, by the assemblage of which an animal body is formed—the physical and physiological properties, and relative situation of these organs—the modifications of structure that exist in the organs of different animals—the changes of structure which the organs undergo during the process of development, and lastly the principle on which all animal bodies are formed and developed.

The science of organization takes cognizance, as I have already hinted, of vegetable as well as animal structure, and these two kinds of living matter do not differ so much as might at first view be imagined. The vegetable tribes display organs and functions that will bear comparison with the corresponding organs and functions of the animal part of the creation. If in vegetables the organs are less developed, a greater development is not required, as these beings are fixed to the soil on which they subsist, whereas the animal tribes are so constituted that they must seek for nourishment which is often at a distance, and consequently must have powers and capacities for searching it out, for distinguishing it from what is innutritious or baneful, and for appropriating it when found to the wants and exigencies of their systems. We shall confine ourselves in this course to *animal* organization, and from what has been already stated you can form some idea of the extensive nature of the subject, into the investigation of which you are about to enter. So important, indeed, is even this restricted subdivision of anatomy viewed, that it has been still farther divided into distinct branches, and these treated as independent subjects of scientific pursuit. Thus we speak of anatomy as general and special, human and comparative, descriptive and surgical, normal and pathological, and philosophical or transcendental. Although all these branches, to a greater or less extent, are included in the anatomical department of every well conducted medical school, yet in this, and other schools, it has been found convenient to investigate the subject under a two-fold aspect—that of practical and that of theoretical anatomy, or under the less objectionable titles of descriptive and of general anatomy, a course of prelections being devoted to each department.

The descriptive and practical course will be found to embrace the following most useful and indispensable branches of study:—1st. A minute description of all the parts of the human body, or what may be denominated descriptive human anatomy in all its details: 2nd., relative, regional, or surgical anatomy, or the relation which the parts previously described bear to each other in position and in reference to the operations of surgery; and 3rdly, practical anatomy, or the method of investigating the structure of the human body by dissection. On these subjects it is unnecesary at present to dwell, as my respected colleague at the appointed time will commence this important division of our subject, and bring the matter fully under your observation.

The subject which falls to be discussed at this hour of lecture, will be found to be of a deeply interesting and philosophic character; for it will combine both anatomy and physiology; and the anatomy introduced and discussed at this hour will be of a different kind—of a more general nature—referring more to intimate structure than that given at the hour of demonstration. The anatomy which we shall introduce to your notice at this hour, will have a special view, I had almost said a constant reference, to physiology. So much, indeed, will anatomy and physiology be carried hand in hand in this course that we might designate the course as one of physiological anatomy. You all know the difference between anatomy and physiology; you know that anatomy has a reference only to structure and physiology to function; that anatomy is the science of organic structure and physiology the science of organic action or function. The line of distinction between these two kindred departments of science is thus easily drawn, but the relationship is, notwithstanding, so close and intimate between them, that we can hardly suppose the one science existing without the other, and most assuredly you will find that they can be investigated most easily, pleasantly, and effectually in conjunction and in combination.

In this course the physiology will hold a prominent part, and what science can be named that comprehends so many fascinating subjects of inquiry as physiology? We contemplate with a sublime pleasure the working of a machine like the steam engine, but in the operations of an animal body there is more to admire than in all the complicated movements of that transcendant effort of human genius. A steam engine is nothing more than a philosophical and happy combination of mechanical powers; but although there is much in an animal that is purely mechanical, there is also something that mechanics alone cannot explain. The human body is, no doubt, a machine of exquisite mechanical structure, but it is also a *living* machine, and the vital properties of its various tissues and combinations of tissues lead to loftier and more refined investigations than those to which mechanical science conduce. Can we look with apathy at an inferior animal waking from its sleep, springing as it were into new existence, exhibiting locomotive powers as if under the influence of magic, revelling in the full enjoyment of all its senses and displaying the other attributes of its nature? Or contemplating the extraordinary capabilities of man, who, besides displaying those powers that arrest attention in the inferior animals ,exhibits likewise those sublime, I had almost said incomprehensible, moral, and intellectual endowments which raise him so far above every other animal, and fit him for purer pleasures and a higher destiny? Can we contemplate these capabilities, I say, or come to the investigation of such sublime mysteries without emotion? Man is physiologically a living miracle of nature, and were he not so frequently before our eyes would be viewed as the most astonishing of things.

As this course will embrace anatomy as well as physiology, and as anatomy or structure necessarily lies at the root of all physiological enquiry, as it is the point from which this enquiry must proceed and to which it must return, we shall be thus led to an extended survey of animal structure and organization, a survey which may be said to comprehend the five following subjects of anatomical study:—1st. General anatomy, or the anatomy of the primary tissues of the body.—2nd. Special anatomy, or the anatomy of the organs and systems of organs formed by the union and combination of the primary tissues.—3rd. Comparative anatomy, or the peculiarities of structure which exist in the corresponding organs of different animals or groups of animals as compared with the human organs.—4th. Developmental anatomy, or the investigation of the changes which each and all of the organs undergo from their earliest formation to their full growth: and lastly, philosophical or transcendental anatomy, or the investigation of the fundamental type or model upon which animals and their various organs are formed. Permit me to make a few remarks upon each of these topics.

1. *Of General Anatomy.*—This appellation is usually given, as I have already hinted, to that department of science that treats of the primary or elementary *tissues* that enter into the formation of the more complicated parts of an animal body. Every part of the body is more or less of a complicated structure. In the *skin*, for example, besides the three fundamental layers, the cutis, the rete mucosum and the epidermis, we find a numerous assemblage of arteries, veins, lymphatics, nerves, sebaceous follicles and hairs, all united in a determinate manner, by cellular membrane, so as to form a sensitive and protecting envelope for the whole body. In this simple-like membrane, then, we have a great complexity of structure, and in some organs, as the eye and its appendages, all the textures of the body are congregated. The object of general anatomy is to unfold and display these textures in their simple and uncombined state and to ascertain their peculiar physical and physiological properties. To Bichat we are indebted for the first satisfactorily systematic and full

description of these textures and, such was the ability he brought to the undertaking, that notwithstanding the eminent men that have followed him in the same track of investigation, it may be justly questioned if any important additions to general anatomy have been made since the time of Bichât.

The primary textures of the human body, according to this authority, are twenty-one in number, and that they may be the more easily comprehended, we shall arrange them into two classes. First, the generally diffused textures; and, secondly, the *particular tissues*, or those found in determinate parts only of the body. In the first, are included the cellular, the nervous, the arterial, the venous, the exhalent and absorbent tissues; and the second includes tissues of the following denominations: the osseous, the medullary, the cartilaginous, the fibrous, the fibro-cartilaginous, the muscular, the mucous, serous, synovial, glandular, dermoid, epidermoid and pilous. The import of these terms, we cannot wait, at present, to explain, far less to enter upon a description of the tissues themselves; we may, however, be permitted to say, that the generally diffused tissues, as the name implies, are found, in a greater or less degree, in every part of the body, so that could we insulate completely any one of these tissues, it would present an exact resemblance to the general form of the body from which it was taken. We might, therefore, consider the generally diffused textures, as the nidus, in which the special textures rest and are incorporated, or we may view the more *special* textures as so many pieces of the frame-work of the system, and the generally diffused tissues as their connecting media, and supporting and vivifying apparatus.

Of these tissues, three are viewed by many anatomists as fundamental, existing in all animals, and essentially different in their physical, chemical and physiological properties; these are the cellular, nervous and muscular. More lately, the German physioligists, Schwann and Schladen, have demonstrated, that all the textures not only originate from ulcerated cells, but that a striking similarity, if not an identity of structure, exists in the originating cells of animal and vegetable organizations.

As text-books of General Anatomy, I can recommend the Anatomie Generale of Bichât, an original work of transcendant ability; also, the Elements of General Anatomy, by Beclard, translated and edited, by Dr. Knox, which, though written with less eloquence and originality, is a superior production to the other, in the condensation of facts, and in reference to sources of information.

2. *Of Special Anatomy.*—The study of the individual organs and systems of organs which exist in any animal body can only be successfully prosecuted after some knowledge has been attained of general anatomy. Every organ consists of an assemblage of simple or primary tissues arranged in a peculiar but determinate manner; but it is obvious that our knowledge of the structure of any organ, or indeed of any compound substance, would be very imperfect if we were unacquainted with the simple ingredients by the union of which the organ or compound is formed. General anatomy embraces principles that are applicable to the whole of the animal creation, for the primary textures of all animals are alike; but special anatomy is as diversified as the species of animals that inhabit the globe. The special anatomy on which we enter in this course, is that of *man*, and from its superior importance to you, as students of medicine, will constitute a large proportion of the course.

Special human anatomy is the science that treats of the situation, form, weight, colour, and consistency as well as internal constitution and structure of every organ of the human body. The branch of science thus shortly defined, is also sometimes denominated descriptive human anatomy, a department which will be considered in all its bearings as we have already stated, in the other and demonstrative course. But the special anatomy of man, which will form a part of this course, is essentially different from the other, both in the arrangement followed, and in the object proposed. In the demonstrative course we shall follow an arrangement purely anatomical; the descriptions will be circumstantial and minute, with occasional references to the practice of surgery; but in this course we shall follow an arrangement based on *function*; our descriptions will be more general, and physiological disquisition will take the place of dry anatomical details. In conformity with this plan, we shall view all the organs, numerous though they be, of which man is composed as arranged into three classes:—First, Organs of relative life, or those organs which connect man to external narure, and which enable him to appreciate and enjoy the relationship in which he is placed. Second, organs of nutrition or organic life, or those organs that preside over the internal, vital, or organic motions and operations of the whole system. Third, organs of reproductive life, or those which conduce to the continuance of the species. By the combined action of these organs man is formed, grows up, and displays in full vigour the powers and energies of his nature.

The organs of the first class, or those of nutritive or organic life, are numerous, and exceedingly complicated. They may be said to preside exclusively over those internal or organic changes which are in incessant operation in the living system, and on the existence of which vitality itself may be said to depend. By the combined action of external and internal causes, the constituent parts of every living organ are soon rendered useless; these decayed parts, therefore, require not only to be removed, but new particles added to supply their place. A constant series of depositions and absorptions are thus going on in every organ of the body, and at every point of every organ, and these two conditions of matter may be said to constitute the essence of vitality. When these two phenomena exist in any organized body, whether of the animal or vegetable kind, the body is alive, and when they are wanting the body is dead. As the depositions of new particles in an animal body are made from materials foreign to the body itself, and as these foreign ingredients must be changed, and changed remarkably, before they can constitute a part of a living being, it is not at all surprising that a numerous assemblage of organs should exist for effecting such change. Time will not permit me at present to enter into the subject. Suffice it to say that the organs of nutritive or organic life include those of digestion, absorption, circulation of the blood, respiration and secretion; a series of phenomena of the most interesting kind, and which involve inquiries of the highest moment in the practice of medicine.

The organs arranged under the second of these classes are strictly of the animal kind; they enable us to move from place to place, to receive impressions of the varied objects that surround us, and to judge of the qualities and relations of these objects; hence we have for these purposes, first, the bones and muscles, or the passive and active organs of locomotion; secondly, the senses of touch, taste, smell, hearing, and vision, or a system of complicated apparatus of the most exquisite structure, by which we are in various ways brought into still more intimate relationship with external nature; and lastly, those still more remarkable central parts of the nervous system, on which the impressions made on the senses are concentrated and recognised, and through which all intellectual operation, sentiment, or instinctive propensity, emanate.

The organs of the third class, or those of reproduction, are essential to the continuance of the species. There is a term beyond which no organized being can survive; yet, though the individual being must perish, the species continues unimpaired. By the legitimate exercise of the reproductive organs a series of effects are superinduced, as remarkable and interesting as any in the whole circle of nature. These effects may be said to comprehend copulation, conception, uterogestation, and parturition—a series of processes by which a new being is formed, elaborated, nourished and protected, till fitted for an independent existence.

Many works since the time of Vesalius have been written on the special anatomy of man. In some, as in those of Winslow, Boyer and Cloquet, accuracy and minuteness are aimed at, without regard to the uses or functions of the parts. In others, as in the *Anatomie Descriptive*, of Bichat, the descriptions, though not less accurate and circumstantial than in the former, are uniformly found in more intimate relationship with physiology. There are likewise many works professedly devoted to physiology, in which much of the intimate structure of man is attended to. Of these I may mention the Elementa Physiologiæ of Haller, and still more particularly the Elements of Physiology, by Müller, of Berlin, translated from the German by Dr. Baly, and enriched by the lucubrations of the translator himself.

3.—*Of Comparative Anatomy.*—That department of anatomy which treats of the structure of the inferior animals is usually called comparative, although a comparison with the structure of man, or with any thing else, does not necessarily enter into the investigation. The subject is of great extent, and of immense importance in the prosecution both of special and general physiology. It includes a knowledge of the structure of the numerous orders, genera and species of radiated, articulated, molluscous and vertebrated animals, or an animated chain which stretches through a long and intricate succession of being, rising too in complexity from the monad or microscopic animated point, to the chimpanzé, the link which connects man to the inferior creation. Our discussions of this department of our subject, though of daily occurrence, will necessarily be very general, and subsidiary to human anatomy and physiology; but general though our demonstrations of comparative anatomy must necessarily be, I have no doubt that they will tend to increase the interest and usefulness of the course, and stimulate you also to a closer and deeper investigation of the subject for yourselves. To the Baron Cuvier we are chiefly indebted to the rapid progress this department of science has made during the last 40 years—a progress that seems almost miraculous, when we consider it as the result chiefly of one mind, but that mind was of no ordinary mould. I look upon Cuvier not only as the greatest naturalist and comparative anatomist, but also one of the greatest men that modern times has produced. I do not know which to admire most, his acuteness of observation and indefatigability in research, or his sagacity and intellectual profundity. Since the time of Aristotle, it will be admitted that his equal has not appeared. We have only to glance at his investigations into fossil animals to be convinced of his immense superiority. With a mind that could grasp the whole of nature's works, and with an acuteness that could penetrate to the very origin of things, he threw a blaze of light upon, subjects that seemed shrouded in eternal night matters which eluded the deepest search of all previous investigators, he dragged to the light of day; he gave a form, a local habitation, and a name to whole genera of animals now extinct, and which inhabited our planet when man and the present race of animals were yet in the womb of futurity.

In a subsequent lecture I shall advert at great length to the importance of comparative anatomy as a means of illustrating human anatomy and physiology; indeed all the great discoveries in physiology have been effected not so much by investigations into the human structure and functions, as by experiments instituted on the inferior animals. Look at the discoveries of Harvey on the functions of generation and circulation—of Bell and Magendie on the functions of the nerves—of John Hunter, Wilson Philip, Edwards, Müller, and others, on many of the vital organs and functions, and the high importance of comparative anatomy to the student of physiology will at once be apparent.

Many books have been written on this department of our subject, to a few only of which it will be necessary at present to allude.

I can recommend to your attentive perusal the Leçons d'Anatomie Comparée of Cuvier, the Outlines of Comparative Anatomy by Dr. Grant, and the Traité Elementaire d'Anatomie Comparée, by Carus—works in which the subject is treated systematically and fully, yet each in a different manner, and with a different object. You will find also many good articles on comparative anatomy as well as anatomy and physiology generally, in the cyclopœdia of anatomy, edited by Dr. Todd—

a work which reflects great credit on the industry and scientific attainments of the physiologists of this country.

4.—*Of Developmental Anatomy.*—Every organ in the body, as well as the body itself, has a period of commencement, from which it passes through various changes in its progress to maturity; these changes, and the laws by which they are effected, belong to that department of anatomy which we may denominate developmental. The period of man's existence may be included in two grand epochs, that of intra-uterine and that of extra-uterine life. The first extends from the moment of conception to the period of birth, and the second from birth to the last moment of existence, or to death. The anatomical and physiological history of man during the first of these epochs is fraught with intense interest. It is a history not only of the changes which the body, as a whole, undergoes, which are neither few nor unimportant, but also of those minute changes which take place in each organ from its invisible and inapproachable commencement to its perfect form, and in some instances to its full development. These changes consist not merely in an increase of size, a fact generally applicable to the organs of extra-uterine life, but in many curious and important transformations. Every organ is formed by the successive additions of new parts, and developmental anatomy treats of the order in which these additions are made, and of the physiological and pathological conclusions which may be deduced from this knowledge.

Besides the few excellent monographs which have been written on the development of particular organs, among the best of which are those of Tiedemann on the fœtal human brain, Serres on the spinal cord, Seiler on the eye, a succinct account will be found of the development of all the primary textures in the Anatomie Generale of Beclard, and in the Embryologie Humaine of Velpeau, and more particularly in the Principes d'Organogenie of Serres, an approach is made to a systematic and scientific arrangement of the whole subject of developmental anatomy.

5.—*Of Philosophical Anatomy.*—This designation, introduced by G. St. Hiliare, has been applied to that department of anatomy which treats of the fundamental type or model on which all the animal organs are formed—a subject extremely interesting and curious in itself and calculated to lead to many important physiological and pathological conclusions. G. St. Hilaire has attempted to show that amid the endless variety of living beings who inhabit this globe, and more particularly among the vertebrated division of these beings, a striking similarity, if not an identity of structure exists, and that the apparent diversity of form and structure of different animals is dependent on a difference of development merely of parts essentially the same. Although many of the opinions of St. Hiliare are more fanciful than just, still it must be conceded that his "Theory of Analogues," is exceedingly plausible, that his views of the elective affinity of organic elements and of the balancing of organs display an intimate acquaintance with animal organization and structure, and while we may call in question the accuracy of some of his "facts," and the soundness of some of his principles, there can be no difference of opinion regarding the originality of his views, and of the ultimate advantage to science of such investigations.

From what has been already stated, then, you will perceive that though in our practical course your attention will be confined to descriptive and relative anatomy, in the lecture delivered at this hour we shall take a much more extensive range and include in our investigations, general, special, comparative, developmental and philosophical anatomy. These subjects, it must be remarked, however, will not be discussed in the order now mentioned, but wrought up into a systematic whole. A few preliminary lectures will be given, illustrative of these subjects individually. But the whole will be taught, I conceive, to greater advantance in combination, and taught in subserviency to a full, useful, and scientific knowledge of human anatomy.

It will require no lengthened argumentation to prove the paramount importance of a knowledge of anatomy to the practitioner of the healing art; and as you are just about to enter this field of scientific research, with the ultimate object of fitting yourselves for professional practice either as physicians or surgeons, a few remarks on the relation which anatomy and physiology bears to medicine and surgery may not prove altogether useless. The object of medical science is to prevent, to cure, or to eradicate disease. Now disease in its mildest form is known to us generally by disordered function. Disordered function, however, cannot be recognised without a knowledge of healthy function. Healthy function cannot be understood without a knowledge of structure; and structure cannot be known without anatomical observation and scrutiny. There is, therefore, betwixt a knowledge of structure or anatomy, and a knowledge of disease, a close and intimate connection. If the structure is not known, the disease cannot be understood and consequently cannot be treated scientifically, or successfully. Physicians, are required to take enlarged and general views of the economy of man, both in a state of health and disease, and also to explain particular states and symptoms that exist in health, or are evolved by morbid action. But, can correct ideas of the workings of the whole economy be formed, if we are ignorant of the parts that constitute the whole? Or, can symptoms which depend on the situation or connection of parts be clearly comprehended if these parts are unknown to us?

If anatomy is so *obviously* necessary to the physician it must be of equal or still greater importance to the surgeon; it is to the surgeon what the illustrious Bacon has said of knowledge—it is power—power to alleviate pain, to eradicate disease, to save life. Surgical science may be viewed in a two-fold light; first, as embracing principles that are general or applicable to all the operations of surgery; and secondly, as referring to principles that appertain to particular operations. The *general* doctrines of surgery may be all comprehended in what is termed inflammation and its terminations; yet, all these are only certain processes or operations of the animal economy, and probably differing less from the healthy operations than might at first view be supposed. One thing is undeniable, that the man who is conversant with the healthy operations of the human machine will find little difficulty in forming correct ideas of the more uncommon workings of the system. But it is in the manual or operative part of surgery, that the importance of anatomy shines forth most conspicuously. The human body is a most complicated machine. In teaching anatomy, we indeed, try to unravel its intricacies by grouping the different parts into systems, as the osseous, the muscular, the vascular, the nervous, and the splanchnological; but this, though a useful, is at best a scholastic arrangement. The parts are never found thus arranged in nature, but bones muscles, blood-vessels, nerves, and viscera, are intermixed and blended, and to the young student apparently blended and intermixed in inextricable confusion. He can see no arrangement, and can scarcely conceive how any operation with the knife can be easily and safely performed. But the art of the anatomist expels the darkness and demonstrates an order and an arrangement of structures as beautiful as can be found in any other department of nature. The arrangement and relationship of these parts must be learned, however, before a surgeon dare venture to operate, and this knowledge can only be procured by studying anatomy. Compare the state of surgery in ancient and modern times, and you will see how much that science has latterly been benefitted by the cultivation of anatomy. The ancient surgeons were unacquainted with any effectual method of staunching the blood after operations, and the consequences, therefore, were often dreadful when they ventured to interfere. These interferences were often worse than death. If they cut, they afterwards seared with a red-hot iron. If they amputated an extremity, they either cut with a red-hot knife, or plunged the raw and bleeding surface in boiling oil or pitch to stem the torrent of the blood. The mind sickens at the bare recital of these barbarous and revolting expedients, and turns with delight to the introduction of the ligature by Ambrose Pare. This was the first grand improvement in modern surgery—an improvement springing essentially, however, from anatomy, and knowing as we now do, how much suffering humanity has been benefitted by a knowledge of the blood-vessels alone in reference to this single invention, we can easily conceive the mighty effects that would result to mankind by the successful cultivation of the whole circle of anatomy.

Anatomy is not only of deep interest, but a knowledge of it is absolutely necessary to your future respectability and success. If you are desirous of rendering your other medical studies easy, and at the same time pleasant, you must study carefully anatomy. It is the foundation upon which the whole superstructure of medical science must be erected, and if the foundation be unstable, how can the superstructure stand? Some of you are about to enter upon a new world of inquiry, and for the exercise of your various abilities you will find full play. Anatomy, as the science of organization, is yet in its infancy. The descriptive anatomy of the human body is more advanced, but this you know is but a small part of the science of organization, and in exploring the remaining part of this *terra incognita*, what successful results may not be anticipated, what brilliant discoveries may not yet be made. With an average share of ability, much may be accomplished, provided you proceed upon the right track and bring to the undertaking an honesty of purpose and an inextinguishable determination to succeed; and, gentlemen, if you are not forgetful of your own interests—if you are not deaf to the calls of suffering humanity—if you are not insensible and inaccessible to the generous and ennobling feelings and impulses of our nature you will not only fervently *resolve* to do justice to your studies, but carry that heaven born resolution immediately and perseveringly into *operation.*

LECTURES ON CHEMISTRY.

By JOHN SCOFFERN, M.D., Lecturer on Chemistry, at the Aldersgate School of Medicine.

The branch of electrical science termed *Galvanism*, or *Voltaic Electricity*, owes its origin to Galvani, Professor of Anatomy at Bologna, in the year 1790. It appears that this philosopher was phosecuting certain enquiries on the frog, relative to the nature of muscular irritability, during the course of which he found that the animal's limbs contracted on touching them in certain spots with the blade of a knife, or other metallic substance. Galvani, having remarked the universality of this result, began to speculate on its cause, and finally arrived at conclusions which the result of his experiments by no means warranted. The following were the tenets of his belief:—"That in the brain there exists a store of electricity, whence it is distributed to every part of the system, and resides particularly in the muscles. That the different parts of each muscular fibre are in opposite states of electrical excitement, like the two surfaces of a charged Leyden jar; and that contractions result whenever the electrical equilibrium is restored. That such restoration is effected during life, through the medium of the nerves, and may be effected after death by interposing a metallic conductor." Now, without troubling ourselves by an examination of the details of this theory, details, which, by the way, are altogether gratuitous—let us at once embrace the main fact, that, in the experiments just mentioned, the electricity noticed was regarded by Galvani to have originated in the animal; and that the metal, or metals, were merely considered as acting the part of conductors.

The theory of Galvani met with several opponents, of whom Volta, Professor of Natural Philosophy at Pavia, was amongst the most celebrated. He discovered that although one metal might, under certain conditions, produce the effect described, still it was much more effectually accomplished by two. He finally attributed the electricity generated, not to the animal, but to the contact of the two metals; of one metal with some adventitious body. Following up the train of enquiries to which those opinions gave rise, he constructed his celebrated pile—called the Voltaic

pile—formed by arranging plates of two dissimilar metals alternately, (the order of their recurrence being always maintained in pairs with a piece of moistened cloth, or card, between each pair.) It is strange how blind people are apt to be, to everything which opposes their own theory. Volta attributed all the electricity developed by his pile to the contact of different metals, — *then, where was the necessity of interposing pieces of moistened cloth?*

Subsequent investigators discovered that chemical action was always a concomitant of the development of electricity by Volta's apparatus. Fabroni even contended that the contractions produced by the pile on animals, depended on the heat developed by chemical action, or on the contact of metallic oxides with the animal tissue. This theory, fallacious though it be, had the effect of calling the attention of philosophers to the chemical changes which took place within the pile. Dr. Wollaston devoted particular attention to this subject. In the Philosophical Transactions of 1807, he published many ingenious experiments to prove that the electricity resulted from a previous chemical action, and was commensurate with it.

The third theory of the Voltaic pile is intermediate between Volta's and Wollaston's. It was proposed by Sir H. Davy, who inferred that the electrical current depended as well on metallic contact as on chemical action; the former, he imagined, first produced a disarrangement of electrical equilibrium, which was immediately restored by the latter—such disarrangement and restoration constituting a permanent current.

Supposing the elements of the pile to have been copper, zinc, and water, the explanation of the resulting electrical current, according to Davy's views, would be as follows:—"Copper and zinc being brought into contact, electrical excitement as the result. Zinc becomes + and copper.— The water in contact with the plates is composed of two elements, oxygen and hydrogen. Of these, hydrogen proceeds to the copper or negative plate, and therefore itself must be negative. Oxygen, on the other hand, goes to the zinc or positive plate, and must therefore be positive." It is evident that this theory assumes the necessity of metallic contact, as the *fons et origo* of all subsequent electrical action,—an assumption which is fallacious, as modern experimenters have proved.

The advocates for Volta's theory endeavoured to support it by reference to the dry pile of De Luc, an instrument which may be thus simply explained:—A glass tube is filled with discs of paper, gilt on either side with a different metal (silver and Dutch leaf are those generally employed), and the tube is furnished at either end with a brass knob. Such an instrument is capable of manifesting several electrical effects, and it has been argued that the electricity must be owing to metallic contact, inasmuch as the paper being dry, no chemical action could result; a fact also proved (as was thought) by the duration of the period which such a pile will retain its power. These arguments seem altogether fallacious. In the first place, the paper, although called *dry*, must necessarily contain some hygrometric moisture,—secondly, the metallic plates certainly do become oxydized. It may be argued that the oxydation is not commensurate with the length of time which such a pile will evolve electricity, but I cannot fall in with this idea. Although a De Luc's pile will remain in action for years, yet it is not always active; but, previously to using it, a terminal screw is employed to compress all the metallic plates together. Even then, the action of a De Luc's pile cannot be depended upon, and its effects at the best are but very trivial. Some years ago, when I assisted a lecturer on chemistry in this town, I called on a celebrated maker of philosophical instruments, the owner of a De Luc's column, no less celebrated. This I wished to borrow, having heard sundry eulogies as to its potency. Some how or another, I noticed that the fame of the column was not mentioned to the owner without some slight embarrassment on his part. The origin of his embarrassment I had no wish to pry into, and was in the act of turning away, with the instrument in my pocket, when the owner beckoned my return. For a second he said nothing, and I was in the act of turning away again; at last he enquired, with some emotion, "Do you assist Mr. —— in his lecture?" "Yes." "Then," said he, "before you hand him this column, *give the glass part a rub with your coat-sleeve.*" I did so. Electricity was generated by the friction—the gold leaves of the electroscope were deflected most magnificently—and the audience were very much edified by this instance of electricity *by contact*. I mention the fact, to prove how much the power of De Luc's apparatus has been over-rated, and how little reliance can be placed on class-room experiments illustrative of this instrument.

Such, then, are the chief theories of Voltaic action—we will leave them for a while, and proceed to enumerate certain forms of Voltaic arrangement. The pile, intimately connected as it is with the theory of Volta, is a very inconvenient instrument for most purposes, and is now seldom or never employed, except as a curiosity. Voltaic arrangements may be either simple or compound—the former are those which consist of the fewest possible elements necessary to produce Voltaic disturbance. For instance, an arrangement of *zinc, fluid, copper*, whether placed vertically in the form of pile, horizontally, or otherwise, is a simple voltaic circle. A reduplication of this series constitutes a compound Voltaic circle. All the various forms of Voltaic arrangements being so much more easily understood by inspection than by description, I pass them over, and confine my attention to the simple Voltaic circle, as most instructive. The usual plan of forming such an arrangement is by immersing two dissimilar metals, touching each other at one extremity, in a fluid which is only capable of acting on one of them, or, if on both, with different degrees of facility. One metal, and a fluid capable of acting upon it, will not develop a Voltaic current—but one metal, with a different fluid on either side, each effecting a different chemical action, is efficacious. The usual plan, however, is to employ two metals and one fluid. Knowing the relative facility with which different fluids exert a chemical action on different metals, it is easy to indicate the best theoretical voltaic arrangement. This will be best understood after an examination of the accompanying table:—

DILUTE NITRIC ACID.	STRONG NITRIC ACID.	MURIATIC ACID.	SOLUTION OF CAUSTIC POTASH.	YELLOW HYDROSULPHURET OF POTASSIUM.
Platinum,	Platinum,	Platinum,	Platinum,	Platinum,
Silver,	Nickel,	Antimony,	Silver,	Iron,
Copper,	Silver,	Silver,	Nickel,	Nickel,
Antimony,	Antimony,	Nickel,	Copper,	Bismuth,
Bismuth,	Copper,	Bismuth,	Iron,	Antimony,
Nickel,	Bismuth,	Copper,	Bismuth,	Lead,
Iron,	Iron,	Iron,	Lead,	Silver,
Tin,	Tin,	Lead,	Antimony,	Tin,
Lead,	Lead,	Tin,	Cadmium,	Cadmium,
Cadmium,	Zinc,	Cadmium	Tin,	Copper,
Zinc.	Cadmium.	Zinc.	Zinc.	Zinc.

Suppose the exciting fluid to be muriatic acid, then the best metals to form a Voltaic arrangement would be platinum and zinc: the next best, antimony and cadmium, *etc.* It is singular that the power of Voltaic electricity to give a shock, depends entirely on the number of alternations, independently of the extent of their surface;—but with respect to chemical effects, the reverse obtains. This fact has never been satisfactorily explained. Until within the last few years, the metals generally employed for forming Voltaic arrangements, were copper and zinc; but, lately, many forms of arrangement, infinitely more powerful, have been devised. Platinum, in the old forms of battery, would have been too expensive an element; but, in Groves' arrangement, this inconvenience is partly surmounted, and an instrument is formed more powerful than any Voltaic apparatus previously invented.

It is a great objection to most Voltaic arrangements, that their agency is so evanescent, thus preventing a continuous series of experiments. In ordinary arrangements of zinc, copper, and acid, the effect rapidly declines, partly from the decreasing strength of the acid employed, and partly on account of a deposition of metallic zinc on the copper-plate. Professor Daniell obviated this inconvenience by what he calls his constant battery, in which, by a very ingenious, but simple contrivance, copper, instead of zinc, is deposited on the copper-plates, thereby always preserving them bright and efficient.

We will now pass from the forms of Voltaic apparatus to the effects produced by the electricity evolved; and here I should remark, that, although identical with electricity developed by the machine, still its effects are very different. Voltaic electricity is developed in a quantity infinitely greater than can be accomplished by the machine—but of very low intensity; hence the peculiarity of its results. This distinction between intensity and quantity is felt almost intuitively by electricians, and still is very difficult to be explained. It is easy, however, to imagine effects not only dependent on the quantity of an agent, but also on the method of applying it. For instance, the ignition of a pound of gunpowder thrown loosely on the ground, would not produce so marked a result as an ounce fired in a cannon. Without pretending to demonstrate any precise analogies, I think you may associate the idea of electrical intensity with a small quantity of confined and ignited gunpowder; whereas, electrical quantity, apart from intensity, may be roughly assimilated to the other case.

I have already noticed that chemical action is necessary to Voltaic excitement; the latter, in its turn, becomes one of the most powerful agents in effecting chemical decompositions. Previously to my entering upon this subject, I must caution you against any confusion which might arise from an apparent contradiction in terms, in reference to the ends of a Voltaic arrangement. We will suppose zinc and copper to be the metals employed, and dilute sulphuric acid, the fluid. Now, a simple Voltaic arrangement of these elements would stand thus,—

+ Copper, acid, Zinc —

in which case the copper is positive, and the zinc negative. A compound Voltaic arrangement of the same elements stand thus,—

+ Zinc, copper, acid, Zinc-copper —

In which case the electrical energies seem reversed; but this is only apparent, not real; the explanation being, that in every compound Voltaic circuit, the two terminal plates are of no service, and might be removed without influencing the results. The reason of their being retained, is for the purpose of allowing several batteries to be joined together, when the plates, formerly terminal, cease in reality to be so. The effects of Voltaic electricity may be divided into physiological and chemical; the former do not materially differ from those produced by electricity from the machine; the shock, however, is not so violent as that from common electricity, but more persistent. Like common electricity, it has been employed in the treatment of many diseases, with various degrees of success. For such purposes, it is to be remembered that mere extent of surface in the metals employed, need not be regarded—number being the only requisite. The chemical effects of Voltaic electricity are most curious and important. No other agent has afforded us such means of elaborate decomposition, or has led to such magnificent and unexpected results. It was by the aid of Voltaic electricity that Davy achieved the first brilliant conquests in his extraordinary career, and accomplished the decomposition of the alkalies and the earths.—The investigation of these effects will form the subject of our next lecture.

Poisoning by Laudanum.—A young writer, M. Camille B., whose *debuts* at the *Comedie Francaise* had been remarked, has lately perished in consequence of a fatal imprudence. Being attacked with a slight indisposition, M. C. B. was directed by his father, who is a physician, to apply a cataplasm, into which a few drops of laudanum were to be poured, to the stomach. To alleviate his pain, which was very severe, he poured, instead of three or four drops, the whole contents of the bottle into the cataplasm, and went to sleep thus. The poisoning was almost instantaneous. The most prompt assistance which was rendered him was in vain; he died in a few minutes.

EXTRAORDINARY CASE OF ARTIFICIAL SOMNAMBULISM, AND CLAIRVOYANCE.

To the Editor of the 'MEDICAL TIMES.'

SIR,—Before I left London, you asked me to give you a written account of what I had just seen at Mr. Prideaux's, at Southampton. The reason I did not do so, was, that the patient I had seen was not mine; I was not the mesmeriser; and, as it was in his house we experimented, I could not assert, on my *own* knowledge, that there were not pipes going from his upper rooms down to his kitchens, &c., &c. True, I did not allow any of our *experiments* to depend on the honesty of either Mr. Prideaux, or his patient, for the *experiments* were not of a nature for collusion to be possible. Still, I thought I should appear with better grace before the public, if attesting cases of my own, and which took place in my own house, and until I should have such an opportunity I determined to remain silent on what I had seen; but, now that such an opportunity has occurred, I will relate it, and, in some future letter, will relate, also, what I saw and did at Mr. Prideaux's, at Southampton to whose kindness and forbearance, I am much indebted. I will now proceed to give you an account of what happened last night, here in my drawing-room, between the hours of eight and ten.

Caliste, now aged 22, was once a patient of M. Ricard, professor of mesmerism, here at Paris; after being cured by the latter, of his complaint, he was retained in the establishment of M. Ricard, some years, on account of his remarkable lucidity. At length, Caliste and M. Ricard, disagreed, I believe, on account of Caliste's immoderate love for the bottle, and they parted. M. Ricard will now not have any thing to do with him, and I believe, Caliste makes his living by being mesmerised for pay, by the Paris medical students, and who, by bad management and ignorance, I have no doubt, have much injured his mesmeric education, as much as intemperance has, doubtless, injured his lucid powers. I brought with me sealed letters from England to get read, unopened, should ever such an opportunity occur, and I applied to M. Ricard for his assistance, in the endeavour. He said he knew no patient then AT THAT MOMENT IN PARIS, so likely to read them as Caliste, provided he had lost none of the former power which he possessed, when mesmerised by him. I said I should be delighted to run the chance of a trial, and his clerk promised me to send Caliste to me, if by any means, he could get his address. A few days after, Caliste was sent to my house, and I saw him, for the first time in my life, the day before yesterday. We only exchanged a few words, in which, I told him what I should give him, and to come the following evening (last night), for me to mesmerise him, but to bring no one with him, as I was quite competent to take care of him. Last night, 5th October, Caliste arrived here at half-past 7, P. M.; I had invited to witness the experiments with three ladies, Colonel Kent Murray, Captain Cotgrave, R.N., and Mr. Jump. I commenced mesmerising Caliste, and in about seven or eight minutes, he passed into the mesmeric sleep, with a deep breathing and a shudder.

In a minute or two, we began our experiments. We wrapped up some cotton wool in some lint, and made two large pads, which we applied to his eyes, and over them, bound a very large, new, and white India silk handkerchief. Every one declared themselves satisfied he could not see. He then consented to play *ecarte* with one of us, and Capt. Cotgrave began. They sat at a card-table, and two packs of MY cards were produced. He took up one pack, and like lightening sorted them for *ecarte;* that is to say, he threw out all the cards below seven, without one mistake. They cut, and he dealt—he won every game, and, to the best of my observation, never lost the point, *except when the Captain refused to give him cards,* when, of course, it was a question of luck. He would frequently say, before he began to play (and all he did was with an astonishing rapidity) "You have lost;" and tell over the cards of his adversary as if he saw them, and never made a mistake. He knew the cards his adversary held, better than the Captain did himself. Colonel Murray then played with him, and with exactly similar results. On one occasion the Colonel cut for deal, and cut at the seventh card from the top, and before he turned it up, or knew himself, Caliste named the card. Now, he must either have seen through six cards, or round a corner, neither of which depended on any fault in the bandage, *even* if a misplacement *had* taken place, any more than his reading his adversary's cards. While playing, he seemed much annoyed by the brass hinge of the card-table, and for a long time we could not think the meaning of his fretful motions, till he complained of the brass, when we turned the table for him. We frequently inspected the bandage, and sometimes at his own request, though, indeed, the wonder of what he did was not at all dependent on it. I then begged him to tell me, out of ten sovereigns, the one I had mesmerised. He said he *disliked gold*, but begged for silver. I gave him ten crowns. One was marked by Colonel Murray, and given to me to mesmerise, and the Colonel ran his hands over the others—Caliste had his head *turned away,* and the bandage still well on—I placed the mesmerised piece amongst the rest, and turned my head away, fearing if I knew which it was, he would find out *through me*, and begged the Colonel not to touch *it*, but to push it about with the others, and alter the position of it. All the company had been shewn the Colonel's mark, and Captain Cotgrave also moved them about. Caliste took them all up, put one at top of the other, ran his nose, as if smelling, along the rouleau of crowns placed them upon the table, and said "The fourth piece is yours." He was right. He never looked at the faces where the mark was, and all was done with a *speed quite incredible.*

I then put him in contact with the Captain, and asked him about his health, and if he had lost any limb, or the use of any organ? He said he was then suffering no pain—that he had lost no limb. I asked if he was deaf or blind? The reply was, he sees better with one eye than the other; and on being desired to name which eye was the best, he named the left, which was quite correct; for the other eye was quite gone, though, unless looked into, not to be easily perceived. I forgot to mention that while Caliste was playing cards, I had all the lights put out, but one, which was put at some distance from Colonel Murray, so as only *just* to enable him to see his own cards. Caliste did not appear to be aware of the change for some time, but still played on and told his adversary's cards: but at last he said something about the candles, and we relit them. Another experiment we made, was to see if he could tell us the names of four cards, with their faces on the table. He said he could not, he thought, tell us the colour, but he would count the points for us, which he did correctly, only once he counted seven instead of ten.

I then gave him one of my sealed letters to read, but he said he could not, for he had never done such a thing, though he had seen into a wooden box (which box I have seen), but that if he tried three or four times, each time mesmerised by me, thought he could. It was curious to see him try: he applied it to his elbow, stomach, head, fingers, &c., and all with the greatest speed. I then proposed to the company trying on him an experiment, I had seen Mr. Brookes, in London, succeed with, but that I did not know if I should succeed or not, for I knew nothing of the patient's powers, or of mine over him, for I had never mesmerised him before. The experiment was to make him "hear" or "deaf" at pleasure. Without giving him any notice of my intention, I placed him in rapport with Colonel Murray, and begged the Colonel to keep up with him a running conversation. Captain Cotgrave was to stand behind him, and give me a signal when to make him deaf, and when to make him hear again. I stood behind him and on one side, with my legs, at about four and a half or five feet from him. At the signal given, I made him deaf, but using too much power for so simple a purpose, his head fell, his breathing was heavy, and he had just the appearance of a patient in a fit of apoplexy. At the given signal I made him hear, but again using too much power, he made a start as if frightened. We again tried the experiment, and as I used less power, the effect was much more *neat* and beautiful. I did not breathe on his ear to restore hearing, as did Mr. Brookes. Captain Cotgrave kept a sharp look out on me to see I was not any where near enough to touch a loose hair with my hand; which I kept at about a foot and a half from his head, and only allowed the hand to move *slowly* from the wrist, and, indeed, the hand or any motion was quite unnecessary.* We then gave him a French book, and opened it at two different places, which he read without difficulty, following the lines with his fingers. We took off the bandage and reapplied it, but still he read, and two words were of the *smallest* type, which I could not read at the same distance, though my sight is most acute. Colonel Murray then wrote on paper a sentence, part of which, Caliste read, but said it was too small, and indistinctly written for him; indeed, the words he read I could not make out at all. Colonel Murray then wrote what I send you enclosed in small writing, part of which, he read, but said it was too small; but, on Mr. Jump's re-writing it in large characters underneath, he read it all, but first said the word "bien" was "bon," and the word "Dommage" he said, was "De Manger," but, on our saying he was wrong, he at length read it correctly. He held the paper nearly at his arm's length; I then placed Mr. Jump en rapport with him, and begged him to tell his complaint. He touched the end of his fingers, and then carried his own to his nostrils and forehead. He said he had no particular illness or pain, but that he had a "nerveuse maladie par tout." This was strictly true, he had just suffered a heavy, loss and I had asked him to come to me to amuse him. Caliste could not bear the brass buttons on the jacket of the little page, with whom I placed him en rapport, but made him take off his coat before he would touch him. We also tried the community of taste, I eat a piece of sweet biscuit, which he said was "Gateau." I put a ginger lozenge in my mouth, which he said he did not know the flavour of, but supposed it was some sort of preserved fruit, but that he was not acquainted with those tastes. I then took some brandy from some brandy cherries with sugar in it, and he said it was some sort of liquor, brandy, or Rum or *something* of the sort. He then begged to be awakened, and I awoke him in half a minute.

Of course I shall continue my experiments on him for several sittings more, and will make him see behind him if possible.

If you will write me a line I will send you an account of our sittings, and afterwards of what I saw at Mr. Prideaux's, at Southampton, if such matters are likely to be agreeable to your readers.

Surely I cannot be charged with being credulous, for I have held out against each repeated fact in mesmerism, till I have had the same proofs as I have of my own existence—viz., my perceptive faculties, not *one*, but *all*, for one may be deceived as in the case of a conjuror pouring different wines out of one bottle, and even there one's sight does not deceive one for he really does it, but the bottle is divided, and there is a hole, plugged by his fingers, to each division of the bottle—still one of our senses may be deceived, but not all our faculties, as for instance the sun seems only as big as a cheese and our organ of size is deceived by the distance, but eventuality tells us that all objects appear smaller at a distance, &c., and we perceive our error. Were it asked why I believe in mesmerism, I should answer, because it has been subjected by me to the judgment of all my faculties, except the faculty of causality, and it has been declared by them true, and therefore stands exactly on the same footing in my estimation as the compass, the magnet, my existence, matter, space or light. I do not understand its cause, but must believe it and will not refuse myself, the uses and benefits it offers me because I cannot tell exactly its origin and its exact "why and wherefore."

Had I such evidence as I have had of all I assert to be true of mesmerism, I must believe anything, however extraordinary it may *appear to me*; I am not aware if such evidence would not make me believe a contradiction, such as three being but one,

yet at the same time quite separate. &c.&c., but there is no contradiction in mesmerism.

I remain, Sir, your obedient servant,

W. Macpherson Adams.

I must also in some future letter give you an account of Mademoiselle Virginié—what I have here stated, I am prepared to prove to any person or any number of persons. If any person whose name would have any weight whatever, as evidence of the facts I assert, will take a run over here, or if any such person be already here in Paris and will call on me, I will undertake to prove the faith of all I have asserted. If any gent., such as I have named, feels inclined to come here from England for the purpose, or if any such are coming here for any other pu. pose and would like to seize the opportunity, I shall only require that they bring a note from you just to prove their identity and their respectability.

TO THE THE ARTERIA INNOMINATA.

By G. D. Dermott, Esq., (Lecturer on Anatomy and Physiology to the Charlotte street School of Medicine.)

RELATIVE ANATOMY.

The Arteries arising from the Arch of the Aorta consist of *three trunks* which emerge from the cavity of the thorax, to supply the superior parts of the body; viz., the head, neck, breast, and the two superior extremities. They make their exit from the superior aperture of the thorax in the following manner:—

The *Arteria Innominata*, arises from the commencement or the superior and anterior part of the arch; passes obliquely upwards and towards the right side, in front of the trachea, and behind the upper part of the first bone of the sternum; and bifurcates behind the right sterno-clavicular articulation and about an inch and a half above its origin, into the right common carotid and right subclavian arteries; the first ascends on the longus colli muscle by the side of the trachea; the latter passes outwards across the upper surface of the right first rib, within the lower part of the neck, and next descends beneath the clavicle into the axilla. Sometimes the innominata bifurcates much higher, and crosses the trachea on the lower part of the neck above the sternum.

Descending in front of the arteria innominata, from left to right, and sinking into the thorax behind the upper part of the first bone of the sternum is the left vena innominata, which at this point generally receives some of the thyroid veins.

Anteriorly, inferiorly, and to the right, the right vena innominata bounds the artery—and more immediately inferiorly, and to the right, is the cul de sac of the right pleura.

Descending anteriorly to the arteria innominata, and between it and the vein, is the superficial cardiac nerve. The order of the parts (from before backwards) behind the upper part of the first bone of the sternum is, the interclavicular ligament—left vena innominata—arteria innominata—trachea—œsophagus.

To apply a Ligature upon the Arteria Innominata.—This artery has been tied in the living body, by Dr. Mott of New York, in 1818; by M. Graëfe, of Berlin, 1822. Both cases terminated fatally. Dr. Mott's on the 26th day, and M. Graëfe's on the sixty seventh. The head and superior extremity were, in both instances, duly supplied with blood by the collateral inosculations.

The following mode of performing the operation is the one usually recommended:—

Let the patient's head and neck be moderately extended backwards, which will rather have the tendency, by drawing upwards the trachea, to elevate the arteria innominata, inasmuch as the trachea is immediately behind it. Commence the first incision in the median line of the neck above the sternum, and carry it horizontally outwards (towards the right) above the clavicle, for nearly three inches, through the integuments. Carry another incision, of nearly an equal length, from the commencement of the preceeding one, upwards, in correspondence with the anterior edge of the sterno-cleido-mastoideus muscle; the two forming with each other a ⅃. Dissect the flap of integuments backwards, when the origin of the sterno-cleido-mastoideus will be exposed. Next pass a director from within outwards behind the sternal origin of the sterno-cleido-mastoideus, and cautiously but completely divide this part of the muscle. This will expose the lower parts of the deep cervical fascia, the sterno-hyoideus et thyroideus muscles, which must be most cautiously divided in the same manner. Next trace downwards with your finger, the carotid artery to its origin, which, if regular in its origin, leads you to the arteria innominata; pass the ligature behind the latter from within outwards The best aneurismal needle for this purpose, is that invented by L'Estrange, of Dublin. The position of the left vena innominata, which closely crosses the front of the artery nearly at right angles (and which will have to be depressed towards the thorax by the fingers of the operator) during the operation of tightening the ligature, must be particularly borne in mind.

When the innominata is tied, the blood is carried into the right carotid, and thence into the subclavian by the inosculations in the thyroid body—the circle of Willis also into the opposite subclavian by the junction of the two vertebrals; and from the aorta direct to the axillary and subclavian trunks by the intercostals inosculating with the external thoracic arteries.

The Arteria Carotica Sinistra arises from the middle and highest part of the arch of the aorta, immediately behind the arteria innominata, so that there is no evident space between the carotid and the latter; it is also at its origin rather before the left side of the trachea; it ascends, making a very slight inclination backwards and to the left, so that, after commencing in *front* of the left side of the trachea, gets by it, and against the longus colli muscle. It then ascends like the right common carotid.

The Arteria Subclavia Sinistra, arises from the upper and posterior* part of the arch of the aorta, at a little distance behind the left carotid, and consequently nearer to the termination of the arch of the aorta and the dorsal vertebræ. Although, as already stated, there is no positive interstice between the origins of the left carotid and the arteria innominata, there *is* a decided space between the origin of the left carotid, and this, the left subclavian, notwithstanding the two latter pass to the *same side* of the body.

The left subclavian passes upwards from its origin bearing somewhat more to the left than the left carotid, so as to emerge from the thorax posteriorly, but distantly, to the articulation of the first bone of the sternum with the cartilage of the first rib; then, getting on a level with the left first rib, it arches across it and between the two scaleni muscles; whilst still upon the upper surface of the first rib, like the right subclavian, it emerges from between the two scaleni, and dives downwards beneath the clavicle and subclavian muscle into the axilla, to becomo the axillary artery.

I think that by means of an inverted T incision, and dissecting the two flaps laterally, that the arteria innominata could be easily secured without the division of any muscle. In injecting subjects, a single longitudinal incision between the lower parts of the sterno-cleido-mastoidei, and carried downwards over the first bone of the sternum, is quite sufficient for the introduction of the pipe into the arteria innominata, and even into the commencement of the left common carotid, and that most readily; I also, when injecting from this point,make use of the same incision for introducing a pipe into the commencement of the left subclavian.

(To be continued.)

ROYAL COLLEGE OF SURGEONS, LONDON.

List of gentlemen admitted members on Friday, October, 7th, 1842:—

R. E, Adams, W. Thomas, J. Coman, H. G. Walker, H. St. John Clarke, G. Stockil. J. Christie, G. H. Maadsdoop, A. G. Purchas, J. Kenyon, H. Greaves, H, C. Thurgar.

* The terms superior, inferior, anterior, and posterior, are used in these descriptions in relation to the erect position of the body.

EXTRACTS FROM FOREIGN JOURNALS.

(For the 'Medical Times.')

French.—*Resection, with Disarticulation of the Lower Third of the Radius.* By Dr. P. Ricord, of the Hôpital des Vénériens.—*Case:* Joseph Vivian, 23 years of age, a labourer, was received into the *Hopital du Midi*, on the 13th of January, 1841. This patient, born of healthy parents, and himself possessed of strong constitution, had been affected at the age of 12 years, with an abscess near the internal condyle of one of the femurs. This abscess had left no trace behind it, and the patient had since enjoyed good health. Eleven months before his entrance into the hospital, after his usual labours and without any known cause, he was taken with severe pains and swelling at the outer and lower part of the right fore-arm. Two months afterwards, abscesses formed upon this region, and were opened in another hospital. It could easily be perceived on probing the wound, as well as from the nature of the suppuration, that one of the bones of the fore-arm was diseased. Fresh abscesses occurred, and the patient entered the hospital where he was treated, for four months, by emollient and tonic medicines. The following was his state when he came under my care: the lower part of the diseased limb was double its natural size, the swelling extending over the wrist-joint to the hand. The posterior surface of the limb was pierced with five fistulous gaping openings, of a fungoid appearance, and which gave issue to a sanious pus. Upon the anterior surface, four similar openings were perceived, through which the probe might be passed to the orifices on the back of the arm. The fleshy substance was hard and solid, in several points, resembling *lardaceous* tissue. In the various movements of the fore-arm and of the hand, we could scarcely distinguish the projection of the muscles or tendons. Although the patient did not experience acute pain, he felt a constant state of suffering, which, added to the abundance of the suppuration, had induced a state of fever with exacerbation towards night. He was much emaciated, and from time to time affected with diarrhea. Having discovered, by means of a probe, that the greater part of the inferior third of the radius was in a carious state, and taking into account the bad condition of the soft parts, I at first thought, like those surgeons who had seen the patient before me, that amputation of the fore-arm was the only resource left. But, after a most careful examination, and after being perfectly satisfied that the ulna was quite free from disease, that the radio-carpal articulation was still sound, although the disease of the radius was bordering close upon it, I decided on an attempt at the preservation of the hand, by removing only the diseased parts. On the 9th of March, 1841, I proceeded to the *resection* of the lower third of the radius and to its *disarticulation*. For this purpose, and with a view of preserving, as much as possible, the muscles and tendons, I followed the principles laid down by M. Jules Guerin, in reference to sub-cutaneous operations, and made a simple longitudinal incision along the outer edge of the radius, commencing below its middle part, and terminating just beneath its styloid process. The skin, as much as the state of the parts permitted, had been previously drawn backwards, so as to prevent the parallelism after the operation, between the outer wound and that of the deeper seated soft parts. This done, the radius was isolated, along its inferior third, by means of a curved bistoury, taking care to keep the knife close to the bone, so as to avoid, as much as possible, the muscles and their tendons. After having completely denuded the

bone, it was in the first place divided at the union of its lower and middle thirds, by means of a *chain-saw*. Directly afterwards, keeping the edges of the wound separated with the blunt hooks, the external and antero-posterior ligaments of the radio-carpal articulation were easily divided with the bistoury, and the radio-ulnar joint cut through with two strokes of Liston's scissors.

The operation was less tedious than I had expected; the patient bore it with great courage, and whether from the care with which the dissection was performed, or from the state of the tissues, not a single artery required tying. After the operation, the wound was brought together so as to unite by the first intention. The limb was placed upon a pillow, with the hand raised, and the parts covered with compresses moistened with cold water. A circumstance worthy of remark is, that immadiately that the *pronator quadratus* was divided, contrary to what takes place in fracture of the lower part of the radius, the hand was forcibly turned towards the ulnar side.

The removed portion of bone was greatly altered in structure throughout its whole substance, commencing half an inch below its upper extremity: being thickened, softened, and infiltrated with pus; presenting also in various parts, points of necrosis which were more or less detached from the carious bone. Without giving the daily details of the results of the operation, I shall merely say that by the the continued employment of the cold water dressing, all febrile re-action was prevented, and but two small abscesses formed which required opening: the one on the back of the hand, the other on the fore-arm. Six months, however, elapsed before the soft parts returned to their natural state and the fistulous passages became completely cicatrized. During this time, some small spicula of bone escaped by suppuration, as well as portions of tendon. It was only towards the fourth month that the hand, which formed an angle of 45 deg. with the ulna, became gradually straightened, in proportion as the point whence the radius had been removed was filled up by *inodular* tissue. At the same time that this straightening of the hand took place, it became slightly turned towards the anterior surface of the fore-arm, so as to allow a somewhat marked projection of the ulna backwards.

With a view of assuring myself of the perfect cure of the patient, as well as to give him time to gain as much strength as possible in the hand thus saved, I have kept him in the hospital up to the present time. The cure of this man is now complete; and, although his hand is partly deprived of the movements of pronation and supination, as well as of those of flexion and extension, he can write with ease, employ his hand for all the purposes of life, and carry things of considerable weight, such as a pail of water.

Instances, somewhat similar to the above, have been previously recorded; yet this case presents peculiar interest, and should encourage us to have recourse to an operation, perhaps, too much neglected, but which can hardly be too strongly recommended; for it may, in some particular cases, be substituted for amputation of the fore-arm, and thus preserve a useful hand to the patient.

TO CORRESPONDENTS.

A. M.—*Beck's work, a new edition of which has just appeared.*

The continuation of lectures by Orfila, Nottingham, *and* Serres, *next week.*

We have several Correspondents to thank for Country Journals.

Mr. H. W.—*We have received many testimonies of approval and kindness from our Country readers; but the most solid, is certainly that of our Correspondent,* H. W., *who sends us a basket of prime game. We have a very high opinion indeed of* H. W.'s *taste.*

The case from Bloxworth may as well be suppressed. The whole was a tissue of blunders.

Mr. Rankin.—*We have inquired, but are not able to give the information asked.*

A. H.—*The circumstance referred to, will make no difference in the* "sensations."

Mr. Coles, the ingenious machinist, has sent us the greatest of his inventions, a genuine poem of his own composition—the first-born of his old age,—and (we believe) of his young muse. Milton and Mr. Coles seem to have one thing in common—their Castalian founts both overflow about the autumnal equinox, and partly as a pyschological curiosity—and partly because it will (we are told), *produce an astounding sensation among the profession, we honour the extraordinary bantling with a place in our pages:—*

When first contagion spread its baneful breath,
Throughout the earth and sow'd the seeds of death:
A direful agent soon it singled out,
'Twas rheumatism, parent of the gout!

This painful racking foe to mortal's health,
Bore off its victims, as it were, by stealth;
Nor could the wisest sages of the day,
Arrest its progress, or the pain allay.

The period soon arriv'd when studious care,
Reclaim'd the thousands from their sad despair;
Rheumatic torture fled throughout the land,
From the Peruvian Rheumatic band!

"Coles," Patentee of many useful schemes,
Not based on feeble theoretic dreams;
Discover'd that a noxious atmosphere,
Engender'd Rheumatism every where.

Dampness of clime, foul vapour, or keen frost,
He wisely judg'd, nurs'd Rheumatism most;
Nay, from experimentalists he found,
That of all soils 'twas worst on British ground!

To quell this torment was his study bent,
Relief to mortals, was the sure event;
Mankind received such benefit, "that fame
Made Rheumatic Bands the general theme,"

Some of the Faculty came "learned too."
Writhing with pain, as many others do;
Could he, "their importunities withstand?"
Not he, indeed, "they all would have the Band."
Amazing where their virtues, "they proclaim,"
Blood circulating through ev'ry vein;
Their muscles *strenghtened and their* limbs *work'd free,*
Exclaim'd, foul enemy. *"we're conquer'd thee!"*

Sed Satis.

THE MEDICAL TIMES.

SATURDAY, OCTOBER 15, 1842.

Fy on't! O fy! 'tis an unweeded garden
That grows to seed: things rank and gross in nature
Possess it merely. HAMLET.

THE sufferings and death of the poor lady whose case we published last week, furnish matter for solemn and useful consideration. The lamentable victim of individual ignorance and negligence, she was still more the victim of a frightful system; and her death suggests to us a harrowing reflection on the multiplied murders which must necessarily come out of the same source, but which are for ever hidden from the world by the absence of circumstances so fortuitously striking and singular. Mindful of our consceration as journalists to the public's weal, we take our stand by her murdered corpse, the eloquent representative of many a less known victim, and summoning to our side, as unimpeachable evidence, the unpunished surgeon and druggist, we boldly arraign our governors for their breach of duty to the people. We bring the case of this injured woman before the judgment-seat of the public, and tell the government "this is your work!" We bring forward the enormous list of suicides, and we say, "your hand has been here!" We go to the sessions and assizes, and, marshalling the poisoning culprits, we exclaim, "behold your instruments!" We present the registries of druggists' victims mutilated, poisoned, killed in ignorance, negligence, or cupidity, and we cry, "their blood is upon your head! Justification there is none, and excuse avails not. The system is your work, and the power of remedy lies in your hand and is unused. You have left poisons free of access—as water: you might have made them unattainable save by doctors' prescriptions. You have left the druggist uneducated; you might have secured his perfect competency. You have vested profitable malpractice with impunity; you might have guaranteed its certain punishment. You might have made the druggist's business, prospects, property, liberty, life, the graduated forfeitures of negligence or wrong; and, while leaving the public at the mercy of his ignorance or sordidness, you have placed all these beyond the reach of justice. To the large extent, therefore, which these and *such* precautions would abate injury, or save life to that extent, we charge on you "that you are not guiltless of wrong!"

On what plea, we should be glad to hear, shall our government escape this grave responsibility? Whatever reasons there are for the existence of a government, are reasons for that government's taking a primary care on this vital matter. Government exists to protect individuals from one another's lawless excesses and criminal passions; to save, consistently with social good, the largest possible amount of their unintringed possession and enjoyment of their property—but, above all, of themselves — their health — their lives. To neglect its people's lives, therefore,—to leave them to negligence, when care can be easily secured—to commit them to ignorance, when knowledge may be guaranteed—to throw them at the mercy of every caprice, and every temptation, and every accident, and every vice, when these conditions may be easily provided against;—to do all this, we say, is for a government to forsake the very first of its duties. No complaint can be made of the government's lack of zeal in protecting its people's material *property*. In every loss of this kind the law is liberal enough in providing punishment on one side, and satisfaction on the other. If a shilling's value be lost to us through fraud or theft, we have the whole machinery of law ready at our hand for the quick restitution of the loss, or the severe punishment of the offender. Are health and life—the most valued of our possessions—of less consequence, or more easily protected? Or, are they in less danger from negligence, ignorance, avarice? We say, then, that our present loose, irregular, and heterogeneous system, which

makes human health and life dependent on chance-discretion, chance-knowledge, chance-industry, chance-virtue, nay, even chance-good-humour, is replete with calamities for the public, and that it is the immediate duty of government carefully to provide its people with the very best system that enlightenment can suggest and wisdom enforce, in reference to *all* the relations the public have or may have with any portion of the medical community.

If there were wanting any collateral proof of the striking absurdity of leaving the body of druggists in their present anomalous and manslaughtering position, we find it abundantly offered in the singular fact of their uniting themselves into an association, for the avowed purpose of doing the government's duty—doing that which every other government in Europe has done for the same class of tradesmen. Since the day that Don Quixote set upon his enterprize of protecting the distressed virtue of Spain, there never was a scheme half so enormously extravagant as that of the concoctors of the Pharmaceutical Society. Except the absurdity it pretends to cure, nothing in the present age of common place wonders distantly resembles its absurdity. It is not only a libel on the government, and on the character of our country for enlightenment, but on that common sense, for which British tradesmen have been so pre-eminently distinguished. They—the drug vendors of London—are to raise the English *Pharmaceutists*, (the very *word* applied to our druggists conveys a volume of satire) to the level of the educated *pharmacien* of France and the continent, to put them in keeping with the advance of the science, in harmony with the wants of the age,—in one word alone, and unassisted by law, to reconcile their *confreres'* ignorance, their negligence, their ambitious avarice, with the claims of justice, the requisitions of science, and the safety and comfort of society. Did a fevered patient ever *dream* of anything so preposterous?

Without education themselves they are to secure the education of their brethren—unexamined themselves they are to examine them. Without a diploma themselves, save a self given one, they are to impose diplomas on other's. Without authority to *advise*, they are to command—without power to enforce, they are to punish; in one word, they are to give what they have not got, to do what they can't!

In the name of common sense, in what way, or by what agency do these gentlemen expect to do any good? What is wanted are the very things which the men they represent are most interested in opposing. *First*, how insure competency? If the men are competent no examination do they need. If they are not, no examination need they stand. And how enforce it? By giving them the privilege of paying a guinea a year, *pro bono publico*, with the chance for a larger sum, and a greater expenditure of study, of getting a diploma, which is not worth the price of its printing, an ornamented etching, 24 inches by 19½, signed by some brace of London shopkeepers, possessed gratuitously by hundreds of tinkers and tailors, who thought proper to sell drugs, and apply for it some twelve months precedently! Why, if they even insisted on an examination distantly respectable—insisted even on a reduced scale of competency, the society would be extinct before the next annual subscription. If we wanted evidence of this we have it in the September number of the Society's organ, which favours us with these significant admissions. "In the law respecting examination, an exception was introduced, empowering the Council to admit, *without examination*, on payment of an entrance fee, *such persons* as had *been actually* in business on their own account prior to July 1st, and who might fairly claim this indulgence!" Again, "the Council have determined to moderate the severity of both the minor and major examinations *in the first instance*." And, secondly, how secure their brethren's respectability, when they dare not express, even an opinion on the common, universal *crime* of druggists' *prescribing* and even *visiting?* Why, of the three or four thousand members or associates they have on their books, we would defy them to name one hundred who do not desert the legitimate calling of pharmacy—and peril human life, for the paltry prospect of selling an extra box of pills, or a mixture.

We say, then, to these gentlemen, that tumid as now looks your society, it is only expanding to burst the more surely. Like a lofty house of cards, you cannot touch or breathe on it without renewed danger of its fall. Like the mist of a summer morning, created, illuminated, beautified by the rays of the very body that will yet disperse it; a short time has only to pass, and the scene will reveal to our gaze but the place where it *has* been! Already you feel that you have raised a power, which, incapable of controlling itself, is beyond the control of its creators—which moulds, who thought of moulding—governs, who thought of governing—and makes the law of your movements not what is right, but what is safe; not what is just, but what will please: and we need no gift of prophecy to assure you that every hope your society has nursed, it will falsify—every expectation it has raised, it will frustrate—the divisions it would soothe it will exasperate—the bad practices it would annihilate, it will fortify; and, living a thing of promises, and dying an object of pity or of laughter, will deserve to have its epitaph written something in this fashion!—

"*A well meant project—rife of good* FEELINGS, *and naked of good* THOUGHTS, which, originating in the luxuriance of benevolence, was sustained for a while by *the excesses of imagination, and perished prematurely of that malady fatal to so many other members of the Family of* SPECULATIONS—*the want of heroic perfections in the public—and of* common-sense *imperfections in the founders!*"

CASES OF PERITONEAL SECTION FOR THE EXTIRPATION OF DISEASED OVARIA. BY THE LARGE INCISION FROM STERNUM TO PUBES, SUCCESSFULLY TREATED.

By CHARLES CLAY, Member of the Royal College of Physicians, London, of the College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence, &c. Piccadilly, Manchester.

THE following remarkable and important case is, I believe, the first instance of this operation (by the large incision), having been performed in England as practised by Dr. Macdowal, of Kentucky, in America, and Mr. Lizars, of Edinburgh, for the particulars of which I refer the reader to the valuable and able work of Mr. Lizars, on the extraction of diseased ovaria, who has entered so largely and elaborately into the history as well as the arguments for and against this bold operation, strengthened by his own experience, as to render my labour in the following details comparatively easy. The success of the operation I am now recording is even more gratifying to me than the fact of its being the first (as I stated before) in England. On this point, however, I do not wish to be misunderstood; I am aware of the cases recorded in England, where an operation was performed, having for its object the removal of the ovarian cyst, by Messrs Jeffreson, King, West, and Philips, the majority of whom were unfortunate in their results; it is, however, necessary to state, that the plan of operation pursued in those cases, was the one recommended by Mr. Jeffreson; viz., *A small incision of one and a half or two inches in length in the abdominal parietes, through which incision the ovarian sac was then punctured with a trocar, and when emptied of its contents, the sac itself drawn through the incision, its pedicle tied and separated.* On the contrary, the operation performed by Dr. Macdowal, of Kentucky, in America, Mr. Lizars of Edinburgh, and myself, is widely different. A large incision of eighteen or twenty inches in length, or from the ensiform cartilage to the pubes, the ovarian tumour fully exposed, its pedicle and adhesions separated, its vessels secured, and the whole mass removed entire. A slight glance will be sufficient to distinguish the difference between these operations. After having given the particulars of the case on which I have operated, I shall make some general observations, as to the comparative merits of the plans alluded to; and endeavour to justify some little deviation, not only in the plan of operating, but also as to the subsequent treatment from what has been pursued by others. I shall then, in the first instance, direct the attention of the reader to the early history of the case.

EARLY HISTORY OF THE CASE OF MARY WHEELER.

Mrs. Wheeler, of 75 Heyrod Street, Ancoats, Manchester, applied to me on the 10th of June, 1842, for my opinion, in consequence of an abdominal enlargement, which had existed three years or upwards, and about which she felt very uneasy. The following particulars were related by her; she was then in her 46th year, had always enjoyed a tolerable share of good health; she had had eight living children, and one miscarriage, and was twenty-three years old when the first child was born. At the latter end of 1839, she began sensibly to enlarge at the lower part of the abdomen, as though she was in a state of pregnancy. The swelling might have been of longer duration, but it did not particularly arrest her attention till the period above stated; at this time, her neighbours rallied her on being in the pregnant state, but she did not think herself so, as menstruation appeared at regular intervals. From February, 1840, the enlargement in-

creased more rapidly, still the catamenia regularly appeared. From the first commencement of the enlargement, to the latest period of its existence, she never felt any particular pain from first to last; the sensation was more that of weight, and incumbrance, than any thing else; nor can she recollect on which side the enlargement first began; but thinks she felt more inconvenience, and earlier, on the right, than on the left side. In the autumn of 1841, she consulted different medical men, none of whom, gave her any hopes of relief, and one told her it might burst of itself. She was of a constipated habit, never remembers having received any injury, had no occupation but that of attending her family, and recovered well and rapidly from all her confinements.

At the time of her consulting me (June 10th 1842) she was much emaciated, tall in person, of a sallow countenance, and appeared as large as a female in the ninth month of gestation; menstruation still regular, complained of great weight and incumberance, but had not suffered any particular pain. I proposed calling on her at her own house, with the view of making a proper investigation; to which she readily consented. On examination, per vaginam, I found the coats of the vaginal canal protruding outwards to a considerable extent, which circumstance must have existed for some time, as the parts protruding had lost their natural texture and character, and were hard and dry, as a piece of fish skin; the pelvic cavity was filled by a large tumour, so completely, that its extent could neither be defined, nor could it be moved by the finger in the slightest degree; the tumour appeared distinct from the uterus, and the uterus itself was lifted up higher out of the pelvis than usual, and the os uteri rested against the upper and inner portion of the symphisis pubis, and was very much flattened; the external abdominal parietes presented to view a distention quite equal to the ninth month of utero gestation,—it was of very unequal character, exhibiting protuberances in various parts, not unlike what the head, limbs, &c., of a child would present if escaped from the uterine cavity, and lying immediately under the parietes of the abdomen, rendered thin by great distention. The case was evidently an enormous tumour, occupying the whole abdominal and pelvic cavities, and from its unequal appearance, was, in all probability, composed of various sacs. The vagueness of its history, and its central position, did not clearly point out where its attachment might be, though it was most probably to the uterus or its appendages—the ovaria; the tumour was easily movable under the parietes, and a small quantity of ascitic fluid had been deposited in the abdominal cavity, which gave the tumour the feeling of floating in fluid, and led to the opinion that it had no adhesions beyond its pedicle, by which it was attached. The left iliac region was more densely filled than the right; but the history of the case rather encouraged the idea that the origin of the disease was on the right side. I requested my friend, Dr. Radford, (an experienced practitioner and physician to the Manchester and Salford Lying-Inn Hospital,) to give me his opinion on the case; who, after a most careful examination, pronounced it decidedly an ovarian tumour of considerable size, with a small quantity of ascitic fluid, and, from its mobility under the parietes, he considered there could not be any adhesions beyond its principal attachment; that it most probably arose from the broad ligament on the right side. I afterwards obtained the opinion of several other medical friends on whose judgment I had great reliance, all of whom confirmed the opinions previously given. It was also considered by Dr. Radford and myself that no effectual means of relief presented itself but that of extirpation. In the meantime a trial of the iodine was adopted for some weeks, but without any sensible diminution of bulk, and as the size of the tumour was too great to expect relief by absorption, and the system appeared to suffer from the effects, of the iodine, I at once discontinued it, particularly as my patient began to express herself earnestly desirous of an operation—respecting which I neither persuaded her to, nor dissuaded her from, but faithfully detailed to her the importance and magnitude of the means she sought—pointed out the particulars of every case on record, with the results, and rather, if anything, depreciated than added to the chances of recovery. Still she was determined I should operate, and the calm, deliberate manner in which she weighed the matter, convinced me I had a woman of no ordinary nerve to deal with—and that, in itself, was a point of considerable promise towards ultimate success. Under this view I promised to perform the operation, provided I could obtain the sanction and co-operation of my medical friends, for which purpose I again solicited their attention to the case, *with the view of extirpation;* amongst whom Mr. Wilson, a surgeon of great experience here, approved of the plan proposed, and with the promise of their cordial co-operation, I fixed on the afternoon of the 12th of September, 1842, for that purpose. I now felt fully sensible of the deep responsibility I had undertaken, in engaging to perform an operation that had no precedent in this country, and but few elsewhere; an operation that yielded to none in its importance, and, as to magnitude, greater than any other in the field of operative surgery. The difficulty of obtaining the countenance of my medical brethren, in a path untrodden before in this kingdom, came over me in full force; but the woman's earnest appeal for relief, and a consciousness that no other mode of effectual relief presented itself, that I had not sought it for the mere whim, determined me to meet the matter fairly and abide by the result; although I was perfectly aware that if the case proved unfortunate the world would not be wanting in arguments to condemn me for rashness, if not for an unjustifiable attempt to render myself notorious. But professional men well know that the notoriety attending unfortunate results of operative surgery is far from being enviable, and more than counterbalances the good from the successful attempts: hence the truth of the old adage—"a good report goes far, but a bad one much farther." That the public may frequently commit an error of judgment in such cases I can readily conceive, from the incapability of ascertaining the true nature of all the *pros* and *cons* connected with the subject, but it is to be regretted when professional men condescend to be partial in their judgment. As an instance I might quote Dr. Ingleby, of Birmingham, who, in his public capacity as a teacher, says, "*of Mr. Lizars' cases I forbear to speak;*" after which he proceeds to advocate the plan, as proposed by Mr. Jeffreson. Now, what is the fact? In many cases, as I shall afterwards prove, the mode pursued by Mr. Jeffreson is not only impracticable, but really absurd; and at the very time Dr. Ingleby makes his assertion, more cases had been successful according to the number operated upon by Mr. Lizars' plan than that of Mr. Jeffreson. I find connected with the Jeffreson mode eight cases, of which five were fatal. With that of Mr. Lizars', four by himself, three by Dr. Macdowal, of Kentucky, one by Dr. Smith, of Connecticut, one by L'Aumonier, in France, and one by myself, making eight, of which only one was fatal, and that with great propriety might have been attributed to other causes. Under these circumstances, I need scarcely add that I determined in favour of the large incision, as proposed by Mr. Lizars' and Dr. Macdowal, of America.

PREPARATORY TO THE OPERATION.

Having, therefore, fixed on the 12th Sept. 1842, I called on my patient on the evening of the 11th, found her in excellent spirits, pulse 70, calm and soft. I gave her ten grains of inspissated ox-gall, ordering a repetition of the dose early in the morning, if the bowels had not been previously moved. In the forenoon of the following day (the 12th) I found the bowels had been effectually cleared of fœcal matter, accompanied with considerable flatus. The thermometer indicated the temperature to be 68 deg. and the room not being a large one, coupled with the expectation of six or seven medical friends at the operation, I judged it unnecessary to raise the temperature artificially. At three o'clock p.m. the following gentlemen assembled at my own house:—Dr. Radford, Dr. Black, Messrs. W. C. Vaudrey, Nursaw, G. Southam, J. J. Southam, surgeons, and Mr. Higginbottom, nephew to Dr. Radford.

Before proceeding to my patient, I stated very briefly to the above gentlemen, the plans I wished to put into practice; embracing the following particulars. 1st. That I considered the temperature of the apartment would be sufficient when all were assembled in it, without raising it artificially. 2nd. That in the first incision I should leave the umbilicus to the left, but approach the central line as nearly as possible, from sternum to pubes, believing I should find the pedicle attached to the right broad ligament of the uterus, as slightly indicated by the history of the case. 3rd. To prevent eversion of any part of the wound when brought together by suture, I had taken the precaution of marking the abdomen with fine thread, dipped in a solution of nitrate of silver, crosswise to the incision, that the same parts might be brought in exact apposition when the tumour was removed, and the parts flaccid. 4th. That I should use more of the interrupted sutures, than had been done in the cases by Mr. Lizars. 5th. That I did not wish the intestines to be handled even though they might escape from the wound, during the operation, until the tumour was entirely removed; but that if it was necessary to protect them from cold, I had provided cloths and warm water in which lard would be dissolved for that purpose. 6th. That if adhesions existed I should use the knife for separating them, and not force them asunder with the fingers unless of a very recent character. 7th. That in the after treatment I should avoid, as much as possible, opiates and stimulants.

I then, accompanied by my medical friends, proceeded to the house of my patient: she was cheerful, and free from excitement, having prepared everything for the occasion that was thought necessary. The pulse still stood at 70; soft and compressible

OPERATION.

I placed my patient on a long narrow table covered with blankets, her head a little raised with pillows, and the abdominal parietes so situated that the best light the room afforded fell upon the part to be operated on; taking my station on the patient's right side, with a large scalpel, I severed the integuments from within a short distance of the ensiform cartilage, to the pubes at one stroke: at this time it was remarked, how extremely thin the integuments were immediately over the umbilical region, which formed the most prominent part of the tumour, being scarcely thicker than strong

paper. I now carefully cut through the peritoneum, at the upper end of the first incision nearest the sternum, sufficiently to introduce two fingers of my left hand, which I had no sooner done, than I met with an adhesion, but which must have been recent, as it gave way easily before the fingers. I now introduced the probe pointed bistoury, and, under the protection of my fingers already introduced, lest the abdominal viscera should be injured, I cut with the bistoury the peritoneum equal to the outward incision. At this moment, none, but those who have witnessed such a scene, could have any idea of the extent and formidable appearance of the operation—the incision from sternum to pubis over the bulky tumour could not be less than twenty-four inches (being eighteen when the parts were flaccid subsequently), perhaps as large an incision as ever was made in the living subject; the parietes of the abdomen rapidly retiring laterally, and the enormous tumour (as it were) springing forward, was sufficient to startle the coolest and most determined individual. The uterus was lifted up from its normal position, and lay flattened against the anterior, and inferior, part of the tumour; its right broad ligament expanded on, and connected with, the tumour, forming its pedicle. The uterus as well as the appendages on the left side were perfectly healthy; the pedicle was then secured by a strong ligature, and separated; the tumour being firmly attached to about three inches of the broad ligament. On separating the pedicle, which was of considerable thickness, it was found that the main ligature did not prevent the vessels (that passed through it to supply the tumour) from freely pouring out blood; and it therefore became necessary to take them up in separate ligatures, one end of each being brought outwards with the main ligature of the pedicle. I now passed my hand round the tumour in search of adhesions; three or four of very recent character presented themselves, which gave way to the slightest touch of the fingers, and required no scalpel for their separation, but on the upper surface of the tumour, higher than the umbilicus and on the patient's left side, an omental adhesion, spreading for some space on the tumour, shewed itself; this I separated with the scalpel, when a small vessel poured out blood freely, which I secured and cut the ligature off close. My friend Mr. W. C. Vaudrey had now held the tumour raised for some time, to facilitate my search for adhesions; when all appeared clear I placed my hands in the iliac regions, and assisted him in raising the huge mass fairly from the abdominal cavity, in doing which a considerable force was required as the pelvic portion of the tumour filled that cavity so completely, that it felt similar to the attempt of pulling off a well exhausted cupping glass, from some fleshy part of the body. Dr. Radford and Mr Vaudrey paid every attention to the patient and gave her a tea-spoonful or two of brandy and water, whilst I immediately but temporarily brought the parietes of the abdomen together; Mr. Nursaw and Mr Southam kept them in their position, and I continued to sponge the lower part of the incision, as long as any fluid shewed itself, which was chiefly the remains of the ascitic deposit slightly tinged with the little blood that had been lost in securing the vessels of the pedicle; long as this account may appear, the time consumed up to this, was only twelve minutes and a half, and (as I had no ambition of making it a bloodless operation) about fourteen ounces were lost rather more than in all probability would have been, in consequence of one of the ligatures missing its hold, but, after all, no more than (in my opinion) benefitted the patient afterwards. The integuments were brought together by nine stitches, and straps of adhesive plaister between each, with long straps over the ends of the cross straps; and two long pads of linen were laid on either side of the incision, and over all a stout bandage of some breadth. My patient was then carefully lifted into bed, about forty-five minutes from the commencement; cheerful, and complaining only of a pain about the last lumbar vertebræ and right iliac region, which I attributed to the extension of the pedicle during the operation, which, though as little as possible, it was *impossible wholly* to avoid. The subsequent treatment of the case will in a great measure be tabulated in order that every particular may be recorded, and yet in a manner that will occupy less space, and with less tautology than by any other means. Before the treatment is entered upon however, it will be as well to state some particulars respecting the tumour.

(To be continued.)

REVIEWS.

Commentaries on some Doctrines of a Dangerous Tendency in Medicine, and on the General Principles of Safe Practice. By Sir Alexander Crichton, M.D., F.R.S., Physician to the Emperor of Russia &c. Churchill. London.

We have been exceedingly pleased with this work. It contains a great deal that many physicians have forgot, and much that a great many never knew; for, it has been the fashion within the last five and twenty years, to eschew Galen and Hippocrates, to contemn Cullen and his school, to sneer at Good and his *sesquipedalia verba*, and to forget Young and Sydenham, and Fordyce, and Cheyne and Friend, and all the old and venerated Medici of ancient days, and to worship, in their stead, a host of French and German, and some few English adventurers in physic, who, like the Governor of Barataria, renowned Sancho, fancy that every thing they say or do is new, because they know not what was said and done, and better said and done, by their betters who preceded them. But before we touch upon the marrow of the work, let us ask Sir Alexander—and we put the query with a diffidence which we own we do not generally experience when immolating lesser victims on the altar of our criticism—has he ever seen, inquired into, or taken any pains to acquaint himself with that "species of modern necromancy" (by which he means mesmerism), so unceremoniously condemned in the following manner:—

> I might have hinted, for instance, at the jugglеries of a species of modern necromancy, which has found advocates and professors among regularly educated physicians of this and other countries; but I should as soon have thought it worth while to examine seriously the mysteries of the Jewish Cabbala, by which the truly learned Fludd, in the 16th century, explained physiology and the phenomena of nature, or to have attempted to account for the practice and conscientious conviction of Valentine Greatix, who, in the beginning of the 17th century, pretended to cure all diseases by the imposition of his hand, p. 10-11.

We ask this question, because we suspect from the tenor of these remarks that the doctor has never witnessed a pure case of mesmerism; or if he has, he has not displayed his usual impartiality and good sense. Mesmerism may, or may not be true, for ought we shall assume in this article; but we insist that this is not the legitimate mode of refuting a fallacy or exposing an imposition. Did the author forget, that without one solitary exception, every medicament, every drug, every remedy, every eccoprotic (to use his own language), owes its present position in the pharmacopoeia, to chance, to accident, in a word, empiricism? Phraates, the son of that Orodes, whose brutality to Crassus Plutarch records, attempted to poison his father with monk's bane, but the poison cured him of a dropsy. Paracelsus, seeking the Elixir of Life, discovered alcohol; Van Helmont, hartshorn; Glauber, the salts that go by his name; and Galvani, preparing soup for his wife, developed the principle of Galvanism. The same may be said of Jesuit's bark, of mercury, of antimony, of iodine, of valerian, of foxglove, of, in short, all our active remedies, and indeed of some of the common necessaries of life. A quaint writer informs us, that certain monks of Arabia, having observed that the goats which fed on the berries of the coffee shrub, evinced extraordinary powers of amativeness, and being interested in the experiment, tried them on themselves, and were so gratified by the results that they introduced coffee into general use. The Nauplians, says Swift, were taught to prune their vines, by observing that those bore best on which their asses had been browsing; and is it not more philosophical, more natural, and more in accordance with the amenities of life, to inquire first into the merits of a system, or virtues of a particular remedy, rather than to condemn either the one or the other on some preconceived theory? The Nauplians did not refuse to avail themselves of the process of pruning, merely because they had learned it from asses. The query simply is, did Greatrix, or did he not, perform the cures attributed to him? This is the first step in the procedure; if we are to credit the testimony of the Earl of Orrery, Mr. Boyle, the Earl of Ormond, and numerous other respectable witnesses, and we see no reason to doubt it; he did perform certain very extraordinary cures; is the *modus operandi* (of which, by the way, he expressed himself unable to give any account whatever) not worthy of investigation? "How were these cures effected?" "By imagination! solely by imagination!" replies Dr. Crichton; "Granted. *They are nevertheless cures!*"

This, we think, is the proper mode of reasoning, and not that dogmatic don't-contradict-me-hold-your-tongue sort of argument, which is too common in the profession, and which Dr. Crichton is old enough to recollect Dr. Moseley applied to vaccination, and he must have read, Guy Patin turned against antimony and all its preparations. And, to continue the parallel:—Was it not this haughty self-sufficiency, this terrible adherence to prejudice or preconceived opinions, which called for Fagon's defence of the Harveian theory of the circulation,* and compelled Fabri † to publish his apology for the use of the Peruvian bark? An apology for the use of the Peruvian bark! Think of that Dr. Crichton, and then ask yourself, if any one of the numerous fashionable demi-educated men who roll about their chariots in the West-end, or the ill-paid tropic-fried army surgeons who broil their livers away in an atmosphere of brandy and sunshine, would believe that such a book had been absolutely necessary? Has Dr. Crichton forgotten that Malpighi disinherited his heirs because they allowed blisters to be put upon him when

* It may, perhaps, subject us to the charge of mendacity, when we say that we saw a book written some fifteen years ago, we think by a Dr. Gordon, to prove the Harveian theory a delusion! As far as we remember it was a clever performance. Is not this another proof of the uncertainty attending all physiological speculations, or, if the word be offensive, facts?

† Fabri was a Jesuit, who distinguished himself by laying claim to the discovery of the circulation of the blood.

he was speechless? Or that Brissot was banished for bleeding in pleurisy? Or that it was once necessary to have the consent of the Privy Council before any of the Royal Family could be blooded?* Lord Kames says that in his time, it was common to swallow stones to aid digestion (this was by recommendation of the faculty), and tells an anecdote of Francis the First of France, which is not inapplicable here. In the days of Francis, the professors of the practice of physic were confined to the persons of the Jewish persuasion; he, therefore, applied to the Emperor, Charles the Fifth of Spain, to provide him with a Hebrew physician. The latter complied with his request, but sent him a doctor who had been converted to Christianity; but when Francis learned this, he dismissed him, on which Lord Kames remarks,—"As, if a Jew were to lose his skill on being converted to Christianity, why did not the king order his own physicians to be converted to Judaism?"

Sir Arthur Clarke on Consumption says,—"One physician (Stohl) attributes the frequency of consumption to the introduction of the Peruvian bark. Another (Morton) considers the bark an effectual cure. A third (Reid) ascribes the frequency of the disease to the use of mercury. A fourth (Brillonet) asserts that it is only curable by this mineral. A fifth (Rush) says, that consumption is an inflammatory disease, and should be treated by bleeding, purging, cooling medicines and starvation. Whilst a sixth (Salvadori) says it is a disease of debility, and should be treated by tonics, stimulating remedies, and a generous diet. Galen recommended vinegar as the best preventive of consumption. Dessault and others assert that consumption is brought on by a common practice of young people taking vinegar to prevent obesity. Dr. Beddoes recommended fox-glove as a specific in consumption. Dr. Parr found fox-glove more injurious in practice than beneficial." But we must desist here, for similar instances of diversity of opinion could be collected on almost every disease to which the human body is subject, and every fact that physiology has discovered; and to what end have we collected these facts? Simply because we are desirous of shewing not only to Sir Alexander Crichton but to our junior readers, the students of this vast metropolis, the "Folly† of Dogmatism;" and as we shall have occasion to follow up the argument when we come to consider the treatment of fever recommended by Sir Alexander Crichton, we shall now proceed *secundem artem*.

The following remark is judicious, and of its truth we entertain not the slightest doubt:—

At the moment I am writing these lines I am in my seventy ninth year, and having passed the greater part of my life in the active pursuits of the medical profession, I cannot believe, now that I have retired from general practice, that the freedom of my animadversions will be attributed to false ambition, or to any unworthy motive, but rather to the true one, namely, a sincere desire of rendering some service to an useful and a very difficult art.—p. 11.

Sir Alexander again very judiciously remarks:—

Medicine is a science of observation and discovery, the deductions from which are employed for the maintenance of health, and the elucidation and cure of diseases. Some of the facts which are collected by patient and correct observation, as well as those which are discovered by mere accident, are of so simple, clear, and unmixed a character, as to command at once a perfect unanimity of opinion concerning them. But others, (and these are unfortunately by far the most numerous) are of so complicated, unsteady, and fleeting a nature, as to be of difficult scrutiny, and to be differently seen and described by different individuals, and, consequently they do not serve the purpose of correct reasoning.—p. 12.

We pass over the remaining portion of the ntroduction, though there is scarcely a line which is not worthy of transcription, and proceed to what may be termed the subject matter of the book, or, as before remarked, the marrow. But yet we cannot avoid transcribing to our pages the following very acute and very happy remarks. After having stated, that man is doomed to depend for life and happiness on the exercise of imperfect rather than of perfect sciences, Dr. Crichton, thus writes—and how truly!—"Such is the case with the PRETENDED *sciences of government and legislation, of finance, of trade, commerce and political economy*. The doctrines of these highly-favoured and nobly rewarded sciences are as unsettled, hypothetical, and contradictory, as those of medicine; not merely because, as in medicine, many of the facts on which they are built cannot be proved to be true, or because they are complicated, changeable in their nature, difficult to be collected, or methodically arranged, but also, because the professors of such sciences are exposed to causes which tend at all times to disturb their judgment, and from which the physician is happily free, namely, strong and baneful passions arising from the lust of power, party spirit, and political hatred. Over these highly-honoured sciences medicine may boast of one advantage, with which its professors, as a body, may console themselves in their humbler path of life. The errors of their opinions and practice can only affect the welfare of one individual at a time, whereas the crude hypotheses and vagaries of an empirical statesman, law-giver, financier, or political economist, or of a board of trade, when carried into execution, may destroy the happiness of a whole nation at once, or, at least, seriously injure the interests of numerous classes of its inhabitants." p. 14.

Dr. Crichton thinks, that though the symptoms of diseases are generally understood, yet this knowledge is far from being so complete as is desirable; and in support of his opinion, instances affections of the brain, spinal cord, heart, liver, and digestive organs—"the true distinctive symptoms of which are by no means agreed upon." He hopes, however, that frequent and attentive *post mortem* observations may throw light not merely on the art of recognizing diseases, but of elucidating their nature. He is encouraged in his expectations by reflecting on what Laennec, Andral, Broussai, Pinel, Esquirol, Georget, Foville, and others have done for semiotics; but we believe this to be, in a great measure, illusory.

Dr. Crichton thinks, that a great obstacle to the proper understanding of the nature of diseases has arisen from the premature desire to explain them; but he does not deny that hypotheses have been, to a certain extent, convenient, if not useful.

It may startle many when I declare it to be my opinion that there is no such thing in nature as a proximate cause of any *complicated* disease, such as typhus, in which every function of the body is more or less deranged.—p. 18.

We do not, we own, understand this, neither does the following explanation quite obviate the obscurity:

The only true cause of the complaint is that which is foolishly called a *remote one*, being that which first disturbs the relationship between vitality and the physical forces which exert their power on our solids and fluids, and on a due balance between which health depends. In fevers, many of the earliest symptoms appear synchronously, and are by no means consequences of each other. They spring simultaneously from the first influence of the exciting cause. Afterwards, indeed, there follows a succession of causes and consequences, but none of them of so influential a character as to merit the appellation of a proximate cause of the disease.—p. 19.

Are we to understand by this, that Dr. Crichton considers "proximate cause" as a cause, or origin of, rather than the disease itself? The proximate cause of a disease we have generally understood to mean the disease itself: for example—yellowness of the conjunctiva, skin, constipation, with clay-colored fæces, &c., constitute, together, an abnormal condition of the system, which we call icterus, or jaundice. Does Dr. Crichton, then, mean to say that there is no such thing as jaundice? It is possible we have misinterpreted our author, or he has misrepresented his meaning; but, at the text stands, we own we cannot understand it.

We pass now from the Introduction, which is a lucid summary of the contents of the volume, and proceed to the "Commentaries" themselves.

The first, "On the Functions of the Heart and Arteries in Health and Disease," is extremely important, extremely interesting, and extremely valuable. We feel, in reading it, that we are conversing with a thorough bred physician—a man of theory, of knowledge, and experience. Justice is here done to one whose elaborate essay on the blood, forming the subject of the Croonian Lecture for 1809, has been well-nigh forgotten in the fanfaronade of new-fangled theories, which have little to recommend them but the position of their promulgators. We allude to Dr. Thomas Young—a name which ought to be hallowed by every physiologist. We present an imperfect summary of this chapter, referring the reader to the work itself for further information.

Dr. Crichton laments, that, after the lapse of more than two centuries since the discovery of the circulation of blood, there should be still some difference of opinion among physiologists of equal reputation, as to the true action of the arteries and capillary vessels; since, though the "force" on which organic movements depend is still a mystery, yet minute anatomy, chemistry, and experiment "are sufficient to settle the question."

En passant, we may remark, that this very subject is a good argument against the doctor for refusing to inquire into the truth of a "species of modern necromancy;" since, if what he thinks so obvious "modern physiologists of equal reputation" find involved in uncertainty, if not obscurity, how much more allowance should be made for the believers in mesmerism, who, to a man, pretend to offer no explanation of its *modus operandi*, but content themselves with stating what appear to be *facts?*

Until the publication of the Croonian Lecture of Dr. Young it was the generally received opinion "that the blood, after its expulsion from the heart, was propelled in the arteries, and especially in the capillaries, by a regular succession of muscular contractions and relaxations of these vessels, which were similar in kind, though not in degree, to the systole and diastole of the ventricles and auricles of the heart." p. 2. This doctrine, originating from Haller, the author contends was founded in an anatomical mistake, viz., that the middle coat of the arteries was muscular. More careful examination, however, has proved this opinion

* Sir Charles Searborough, in the case of Charles the Second, was the first who ventured to let blood without consulting the Privy Council. For his promptitude on the occasion the Council voted him one thousand guineas, but forgot to enforce their own resolution!

† See Glanvil's valuable work with this title.

erroneous; and behold the proofs! Admitting that the function of the arteries and capillaries consists in alternate contraction and relaxation, Dr. Young shewed by simple calculation that the motion of the blood could not be promoted by such action; for the contraction would *oppose* progressive motion by a repetition of mechanical hindrances, while relaxation would induce a similar effect by *distending* the parietes of the artery, and thus allowing more space for the volume of blood.

Every ramification or branch of the aortic system must be supposed to act in a similar manner; the length of the portions contracting and relaxing, necessarily varying with their diameters, and, consequently, with the length of the vessel requisite to receive the blood so propelled from one of a greater capacity.—p. 5.

Much of Dr. Young's reasoning was based on the experiments of Hales and Keil, and he argues "that the blood in the human arteries is subjected to a pressure from the action of the heart, which is measured by a column of seven and a half *feet*, whereas, in the veins the column does not rise more than six *inches*." p. 7. Keil proved this by comparing the quantity of blood which flowed in a given time from the divided crural artery and vein of a dog, and the quantity obtained from the artery, as compared with the vein, (the space of time allotted to each experiment being equal) was as seven and a half to three, and according to the experiment of Hales, the loss of momentum was equal to the pressure of a column of blood of seven feet.—p. 8. We cannot follow the author more closely for reasons which are too obvious to be mentioned, and we therefore quote the following conclusive passage and leave this part of the subject for the private investigation of our readers:—

Suppose the left ventricle to eject about an ounce and a half of blood (J. Müller says, two ounces) at each contraction, and that there are seventy-five such contractions, and consequently pulsations, per minute, it then follows, by the calculations of Dr. Young, that the mean velocity of the blood in the aorta, is 8½ inches per second of time; the velocity in each of the succeeding segments of the artery must of course be smaller in proportion as the joint area of the branches are larger than the area of the aorta or chief trunk. It must also be recollected that the aorta is already distended with blood, though not fully so, when the ventricle contracts. When this happens, it suffers an additional, though only a minute, dilatation. It is this sudden swelling of the artery which produces the pulsation, and which is transmitted with such celerity to the remotest capillary. But this is the mere motion of a wave or undulation of the blood. It is not a succession of muscular action in the artery. This wave, according to Young's accurate calculation, travels at the rate of *sixteen feet* per second; whereas the blood, even in the aorta, does not move forward at a greater rate than *eight inches* per second. Deducting this from the motion of the wave, it leaves about fifteen and a half feet per second for the real motion of the pulse; the pulse, therefore, being an indication of a mere wave or undulation of the fluid, has no more relationship to its actual progressive motion, than the waves which are formed by throwing stones in a river have with its actual current. It is as distinct as the undulations of sound are from the currents of air or of the wind: and, consequently, the rate of pulsation cannot be an index of the progressive motion of the whole mass of blood. pp. 9 and 10.

In the "Inquiry Continued," which is an appendix, or rather, extension of the first commentary, we are thus instructed by the following able *resumé*:—

Independently of the profound calculations and convincing arguments which are brought forward by Dr. Young against the hypothesis of an independent muscular action of the arteries, the conclusion he arrives at receives confirmation from many recent anatomical observations of Hildebrant, Bichat, Döllinger, Rudolphi, Hodgkin, and Bright. The two latter, eminent practical physicians and physiologists, concur in asserting that the middle coat of arteries, when examined with a good microscope, exhibits a different structure from that of muscles, inasmuch as the tranverse striæ, which belong to these last bodies, are totally wanting in the middle tunic of arteries; and Döllinger has shewn that the capillaries of the middle tunic of arteries are distributed throughout its structure in an arborescent form, while, in muscles, they form a net-work, which surrounds each fibre. This is in itself a strong argument; but the analysis of muscular fibre, and of the middle coat of the arteries by Berzelius, settles the matter still more completely, for in the tunic of arteries he could not detect a portion of *fibrine*, which is so abundant and essential an ingredient in muscles. Water abounds in muscular fibres as well as fibrine; whereas the middle tunic of arteries is comparatively dry. Muscular fibre, like fibrine, is soluble in acetic acid; the arterial coat is not so. The solutions of arterial fibre do not exhibit any precipitate by means of ferro-cyanites, nor by alcalies, which, however, would happen, did they contain fibrine.—pp. 19-20.

From these extracts it will be seen that we do not in any way incline to the theory of Haller, so ably, but erroneously, supported by Dr. Wilson Philip. But, as it is impossible here to give our reasons for this opinion, to the very valuable work of Dr. Crichton we must beg to refer the reader, who if he desire to acquire information, or if he seek only to renew knowledge, will find his time profitably expended, his perseverance amply rewarded, and his understanding vastly enlightened by even a cursory perusal; nor will he rise from the study of this commentary wearied and disgusted, but invigorated and gratified, for whatever it is useful to know, or pleasant to read, —whatever will guide him in practice, and enchain him in study, connected with the *vexata quæstio* of arterial action,—is here collected, arranged, collated, and descanted upon with temper, knowledge, and moderation.

We delay what we have to offer on the other commentaries to our next number.

Electrotype Manipulation, &c. 10th Edition: by Charles V. Walker.—George Knight and Sons.

This is a work by the clever secretary of the London Electrical Society, who professes to give, in Part 1, the explanation of the theory, and instructions in the art, of working in metals, by precipitating them from their solutions, through the agency of Galvanic or Voltaic electricity: and, in Part 2, a similar elucidation with respect to electro-plating, electro-gilding, and electro-etching, with an account of the several applications of electrotype in the arts. The little work is lucidly and cleverly written, liberally illustrated by wood-cuts, and neatly got up; to all those interested in the interesting subject it treats upon, we can strongly recommend it.

An Essay on Diabetes, by H. Bell, D.M.P., one of the Librarians of the Faculty of Medicine, of Paris. Translated by Alfred Markwick, late *Externe* to the *Hopital des Veneriens*, Paris, member of the Parisian Medical Society.

The Essay before us is a condensed, but still very comprehensive detail, of all that was known up to the time of its appearance, of that still not sufficiently understood disease, diabetes. During its perusal we were strongly reminded of an essay on the same subject by Dr. J. L. Bardsley, forming the article "Diabetes" in the "Cyclopœdia of Practical Medicine;" although with less display of learning, there is perhaps more practically useful matter in the essay before us. In making a few brief comments, we shall take the various departments of the essay in the order in which they stand. In the division of his subjects we think the author has rather complicated, than simplified, the study, by admitting so many varieties of the disease, as "diabetes mellitus, diabetes with fatty matter, ureous diabetes, and aqueous diabetes." Perhaps after all the old division of mellitus and insipidus would have answered every purpose, more particularly as their treatment is in a great measure analagous; and it is not yet clearly shewn but that they may be all one disease, differing only in degrees of intensity at different stages, and thereby taking upon themselves new characteristics like many other diseases.

In the history of this disease, the author falls into the same error as the Practical Cyclopœdian, Dr. J. L. Bardsley, in supposing that Hippocrates knew little or nothing of the disease; indeed Dr. J. L. Bardsley says, "*Hippocrates seems to have been altogether ignorant of this affection;*" a round assertion, which we venture to think can only have arisen from careless reading. The very paragraph quoted by our author disproves the assertion of both essayists. "*If the urine is aqueous and more abundant than the fluid taken, it is a sign that the food is not properly assimilated during the whole time this superabundance of urine persists.*" We would ask the question how much more do moderns know of this disease than what is here expressed? It is true that Hippocrates did not speak of saccharine matter, but this does not prove he knew nothing of the disease, any more than Sydenham, who is acknowledged to have known the disease well, and who is equally silent on the saccharine principles. The fact may be that it did not exist in the cases falling under the personal inspection of those acute observers: had it been a never absent symptom of the disease, no doubt Hippocrates, as well as Sydenham, would not have failed to have noticed it. It would be equally unjust to challenge the father of medicine with not knowing the disease, because he had not noticed the involuntary discharges of semen (maintained by Bardsley) as a symptom, or the smell of hay in the urine advanced by another (Dr. Latham) in which opinion he stands alone. The simple fact of balancing the ingesta with the egesta, is proof sufficient that Hippocrates, Celsius, Aurelianus, Demetrius, and Sydenham, if not acquainted with the name of diabetes, were no strangers to its phenomena.

To fully justify our remark on the author's unnecessary complication of the subject, we find on dipping further into the book, four-fifths of the whole are taken up with the particulars of one division, viz. *diabetes mellitus*, the rest being summarily passed over. The symptomatic portion is well deserving perusal, being in truth a *multum in parvo*. The following extract will afford an example:—

"*Diabetes generally commences in a very* slow and insidious manner, so much so, that at first its existence can very easily be overlooked. The first symptoms which attract the attention are, a feeling of lassitude, excessive indolence, dryness of the mouth, with a disagreeable taste, frothy and viscid saliva, reddening litmus paper: all the functions seem to be performed well, except that of sleep, which is frequently disturbed by the necessity of making water. After some time a sense of weight is experienced in the epigastrium, accompanied with heat, pain, and frequently with coldness of the hands and soles of the feet. The skin afterwards becomes arid, harsh to the touch; the hair on the head, and other parts of the body, grows dry, and falls off in large quantities; the mouth is clammy at first, then sometimes dry, red, and smooth; the tongue is covered with a thick mucous coating,

which becomes afterwards brown, and occasionally quite black. The angles of the lips become incrusted with dried mucus: the mouth is affected as in scurvy; the gums soft and spungy, bleed from the slightest pressure, and present ulcerations at the bases of the teeth, which loosen and fall out; the appetite progressively increases, and becomes at last quite voracious. Occasionally the patient loathes animal food, and seeks only that of a vegetable nature. Digestion is often laborious, and accompanied with eructations and pyrosis. There is constipation, the fæces are dry, and often without odour. Dr. Latham considers a hay scent, which is exhaled from the whole surface of the body, but chiefly by pulmonary transpiration, as characteristic of diabetes; but this phenomenon has seldom been observed by other writers, and I myself never could meet with it. Sometimes there is pain, at others only a feeling of weakness, in the region of the kidneys. The evacuation of the urine is at times very painful, and excoriations of the prepuce with phimosis and redness of the orifice of the urethra, have often been observed. This irritation about the orifice of the urethra is often a source of great annoyance to the patients, especially to females. Anaphrodisia is of most constant occurrence. Dr. Bardsley has noted in several of his patients involuntary seminal discharges, a phenomenon *which has been marked by no other observer.* It is not uncommon to remark cephalalgia, dimness of sight, impaired hearing, and at times total blindness. The sleep becomes short, uneasy, laborious, and disturbed at every moment by a constant want to pass water, and to satisfy the thirst, so distressing to the patient. After a certain time, these symptoms are followed by extreme weakness, lassitude, and considerable emaciation; the pulse at first slow and weak, rises progressively, fever takes place, and returns sometimes at periodical intervals, but most frequently in a very irregular manner. Œdema of the feet and legs follows, and sometimes general anasarca. This condition has even a moral effect; the patient becomes sad and dejected, and in the last stage cerebral symptoms arise, as coma, delirium and convulsions, phenomena which are soon terminated by death. There are two very important phenomena of diabetes, which must delay us a moment, they are *thirst* and *urinary secretion*, being in general the two symptoms of the disease which first draw our attention. When diabetes is fully developed, the thirst becomes incessant, in no other affection, polydipsia excepted, is it so intolerable, so inextinguishable; it is in general proportionate to the excretion of urine, the quantity of which may, in some cases, be enormous."

On the last paragraph we would remark that one case has fallen under our notice of perfectly developed diabetes mellitus, where thirst was scarcely ever experienced. In respect to Dr. Bardsley, two or three curious cases where although the egesta were considerably more than the ingesta, yet the individuals increased in weight many pounds, we think the explanation far simpler than that stated by the worthy doctor. There is often more knavery practised in hospital nursing, and with patients themselves, than medical men generally allow for.

We shall pass over the physical and chemical properties of the urine, with remarking, that it is a masterly condensation of opinions; there is nothing however, particularly new, with the exception of urea being present in diabetic urine, a fact now established. On the state of the blood, we find nothing but what has been advanced before. The progress, diagnosis, prognosis, etiology and nature of diabetes, are brief—but interestingly compiled, and worthy of perusal. This brings us to the treatment of the disease, in which, the author leaves us in the dark, to guess his own opinions, but freely advances the plans of others, and leaves the reader to select for himself which he prefers. In this manner he runs through blood letting, animal diet, opium, astringents, tonics, warm baths, and lastly, various drugs and chemicals that have been introduced from time to time, as specifics, by various individuals, the author concluding that the plan of treatment should be changed occasionally, and that a combination of means is safer than any single plan, and more likely to effect the object in view.

In respect to the treatment of diabetes, we are of opinion, that if veracious medical statistics could be obtained, we should soon arrive at better conclusions; but, unfortunately, we only see one side of the question: cures only, are recorded, whilst failures never find their way to the public. Dr. Clay, of Manchester, in his essay read before the British Association on diabetes, endeavoured to direct the attention of the profession to the effects of tinc. of sesquichloride of iron, and he then states that if the existing statistics are of any value respecting diabetes, the tonic or astringent plan, or both combined, have accomplished more cures than any other means.

On diabetes, with fatty matter, or chylous diabetes, our author is very brief. Citing a case or two from older writers, admitting the rarity and obscurity of the disease, he gives the following:—

"The details into which we have just entered, enable us to recognizine diabetes with fatty matter, the principles of diabetes mellitus, only in a less degree; that the urine has the character of being cloudy and lactescent, sometimes spontaneously coagulable, of possessing a specific gravity but little above the natural standard, and of becoming bright when treated by ether, and of furnishing a more or less considerable quantity of fatty matter. Instead of this fatty matter there may be a kind of oil, immiscible with the urine, which then remains perfectly transparent."

The treatment is analagous with mellitus. On diabetes with excess of urea the author is still more brief, and confesses it analagous with mellitus in a milder form, irritability of the bladder being a distinguishing symptom; lastly, aqueous diabetes, another mild form (in our opinion) of the mellitus, is considered by the author as a distinct disease. In plainer terms, if a patient be recovering from diabetes mellitus, his diminished malady must be classified under a new head, and treated as a distinct species of the disease. Luckily the author's treatment is so allied to those, good for the other forms of the disease, that the different nosology will not seriously interfere with the patient's convalescence. At the conclusion of the book is a most valuable list of authorities on the subject, which will be of great advantage to those who may wish to pursue further enquiries The essay is well calculated as a faithful guide to the opinions of various and numerous writers on the subject, and for those who may have neither time nor opportunity to search, will prove a treasure. The translator is also entitled to credit for the perspicuous style, and he appears to have done the author full justice.

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MEDICAL MEMS. OF THE WEEK.

EXCISION OF THE SPLEEN AS A REMEDY. —Mr. Eagle, of Kingsland-road, gives an article recommending the tying the splenic artery or vein, or the excision of the spleen in various diseases "produced through the medium of unhealthy blood." He cites two cases of rabbits suffering under marasmus, with hydateds; the splenic artery was tied in the one case—the splenic artery and vein in the other. The first nearly doubled its weight within a month from the operation; the second weighed, when operated on, 2lbs. 4oz., and 18 days afterwards, 3lbs. 11oz. Mr. Eagle affirms the improvement to be owing solely to the tying process. The first rabbit was subsequently killed, and shewed, in common with other rabbits similarly operated on and destroyed, traces apparently of *cicatrized* tubercles. Mr. Eagle adds his assurance, that "firmly convinced of the omnipotent agency in those carriers of oxygen"—the spleen in the production of disease—"he will, if allowed, operate on every case of dangerous scrofulous or tuberculous cachexy, throw into the jugular vein, as directed by Dr. Blundell, a few ounces of blood, alone proceed to take up the splenic artery—a work of two or three minutes, at most!" *We* should scarcely imitate him.

THE PROVINCIAL MEDICAL ASSOCIATION. —IN its spiritless and unmeaning conduct, (says the *Lancet*); *in* the fast and loose manner it which it has played with the question of Medical Reform; *in* its senseless and sickening laudations of imbecile persons; and *in* the utter absence of that bold and commanding spirit which should characterise such a body; we had really thought—*from* all these circumstances—that such an association was an object of especial worth in the estimation of our twaddling contemporary—the *Provincial Medical Association*. But we were deceived, and we are glad of it. We rejoice to find that even that journal, which was published for the published for the purpose of sustaining the rottonest parts of ous medical institutions, employs its feeble efforts in condemning the conduct of an association which, really, is little else than a disgrace to the professional body of this country. Annual meetings, feasting, toasting, guzzling, complimenting, and puffing, form the chief features of that stupidly-managed society.—[The bad grammar is not the only remarkable position of this little paragraph of our expiring contemporary. ED.]

INFLAMED PROSTATE. When this occurs with abscess in and around it, says Sir Charles Bell, support the constitution by the common means. Soothe the local irritation by washing the passages, by means of the catheter and syringe, contriving that the stream shall gently play from the side hole of the catheter into the

sinuses. Be very careful (if the ducts of the prostate be enlarged) that the point of the catheter is not entangled in them, or in the abscess, if it open into the passage. In diseased prostrate Petit and Desault are indifferent to the breaking of the membrane with the catheter. Nay, an idea prevails that it is good to unload the varicose vessels! There cannot be a greater mistake. The abrasion fills the bladder with blood, and lays the foundation of ulcer, fœtid discharge, and increased irritation.

Reproduction of Atmospheric Air.—M. Thénard has submitted to the French Academy of Sciences a communication on the means of remaining for a long period in a limited quantity of air, by the absorption of the carbonic acid gas exhaled, and the renewal of oxygen in proportion to its consumption. That the carbonic acid gas exhaled, and which, in excess, becomes fatal, may be absorbed by lime, is a well known fact; but as it is necessary, in the purification of air, to replace the oxygen, which is the vital principle, as well as to get rid of the excess of what is injurious, the great object to be obtained in cases where, as in diving bells, it is important to make the same limited volume of air serve for several hours, is to produce oxygen with ease and certainty. M. Théoard proposes to employ oxygenated water, and has shown that not less than 375 times the volume of water of oxygen-gas may be compressed in this vehicle, and subsequently liberated as required. But to produce this result great care and and expense are necessary, and, when obtained, the difficulty of preventing the escape of the oxygen when not wanted for immediate use is also very great.

Nasal Hæmorrhage.—According to M. Negour this may always be stopped by raising the arm of the same side, as that of the nostril from which the blood flows.

The Use of the Microscope.—A microscopical discovery made during the present year, by Dr. Simon, of Berlin, consists in the detection within the small mass of sebaceous substance which collects in the follicles of the skin, and becomes darkened at its extremity, and to which we give the name comedo, or grub, of an articulated animacule of considerable size.

MEETINGS FOR THE ENSUING WEEK.

Octr. 17, Monday, Medical Societies of London, 8 P.M.
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Sept. 1st, 1842.

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"A bottle of the Fluid Magnesia of Sir James Murray's sent to me for Analysation by a Chemist in this Town, gave me Seven Grains of Magnesia and *Three of Sulphate of Soda* to the ounce, whilst yours yielded Seventeen Grains of PURE MAGNESIA to the ounce. I conscientiously bear testimony to the correctness of the above results.

(Signed) "C. H. WILKINSON, M.D."

"Dated October 23d, 1840."

To Mr. C. DINNEFORD, Bond-street, London.

The above conclusive testimony is further corroborated by PROFESSOR BRANDE, of the Royal Institution.

DR. PARIS, author of the Pharmacologia, and Mr Morgan, of Dublin, who also examined and reported on Sir James Murray's COMPOUND.

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TESTIMONIALS.

From J. G. Andrews, Esq., St. Helen's place, President of the Royal College of Surgeons.

I have worn for some time the new patent boots, called Impilia, with much comfort and satisfaction, I find the boots possess great elasticity, evenness of pressure, and I am enabled to walk a greater distance without inconvenience.

J. G. ANDREWS.

April 20, 1842.

From Anthony White, Esq., Parliament-street, one of the Council, and late President of the Royal College of Surgeons.

I can with much satisfaction recommend to the public the boot or shoe which is denominated Impilia. Its peculiar advantages over all other boots or shoes are, that it is impermeable to wet and damp, and always gives an agreeable and constant warmth to the feet, is also elastic, and is admirably adapted to tender and crippled feet from gout or other maladies.

ANTHONY WHITE.

April 6, 1842.

From Dr. Paris, of Dover-street, London.

I have examined and worn with comfort and satisfaction shoes constructed with intermediate soles of felt, to which you have bestowed the name Impilia. They undoubtedly possess an elasticity and capacity of adaptation to the form of the foot not possessed by ordinary shoes, and they have the rare merit of not creaking. They are, moreover, warm and dry.

J. A. PARIS, M. D.

From Dr. Roots, Russell square, London.

Dear Sir, I have now worn for some time a pair of boots with intermediate soles, which you term Impilia. They are admirably adapted for the ease and comfort of tender feet, and the elasticity of their tread is very pleasant. I can with confidence recommend them for general use, while for medical men they possess the very rare advantage of not creaking, and consequently are desirable in a sick room.

H. S. ROOTS, M. D.

W. Baker, Esq.— April 2, 1842.

From Dr. Hodgkin, Lower Brook-street, London.

Having not only examined, but put to the proof of experience, the patent soles invented by my friend Wm. Baker, M.R.C.S., and termed Impilia, I have no hesitation in saying that they are a very decided improvement on the common method of construction. They are not only much more agreeable to the sole of the foot, but promote a warm and uniform temperature as well as freedom from damp, whether entering from without or derived from the feet.

THOMAS HODGKIN, M. D.

30 4, 1842.

From John C. Taunton, Esq., M.R.C.S., 48, Hatton-garden.

I have worn with satisfaction the boots with the intermediate soles of Impilia. They are worn with more comfort, adapt themselves better to the form of the foot, and are impervious to wet.

JOHN C. TAUNTON.

May , 1842.

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SUMMARY.

ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR, TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. SERRES, Member of the Institute, of the Academy of Medicine, Professor to the Museum of Natural History, Paris, &c., &c., &c.

SUMMARY.—*Effect of the Microscopic Researches of Lewenhoeck and of Hartsoecker.—Idea of the original enclosure of the germs; Malpighi; his Researches upon the Ovum; his ideas upon the Development of the Adipose Tissue, &c.—Boerhaave; his doubt upon the ideas of the Histologic Homogeny of Ruysch and of Malpighi.—The Nervous System considered as the generator of all the other tissues; Inconsistencies of the Supporters of the Centrifugal Theory of Developments.—School of Haller.—Physiology Detached from Anatomy as a Distinct Science; Works of the Anatomists of this School in Comparative Organogeny.—Haller, at first for the Theory of Epigenesis, and afterwards for that of Pre-Existences.—The Heart the Primary Generator of the other Organs.—The Theory of Centrifugal Development based upon the Physiology of the Adult.—State of the System of pre-existences as represented by Bonnet and Haller.—Needham attacks the Hypothesis of the Existence of germs; his Experiments upon the Formation of the Infusoria; occult forces admitted by him.—Wolf: analogy of his occult forces, with those admitted by Needham; opposes the creative action of the Heart; his labours upon the Development of the Sanguiferous system; idea of the successive Formation of Organs—Theory of Organic Evolution established by Haller.*

SUCH, as I represented in my last lecture, are the grand views which have been developed since the commencement of the theory of epigenesis. But unfortunately at the period when science assumed this new course, the system of organic pre-existences sprung up to retard its progress; thus was organogeny arrested in its most important hour by the substitution of an obscure and entirely artificial philosophy for that of nature. The origin of the theory of pre-existence was owing to the abuse of the early microscopic researches of Lewenhöeck and Hartsoecker. Astonished at the results furnished by the microscope, the imagination of physiologists exaggerated still more its power. At first perceiving the entire animal in the ovum, in its last stage of incubation, they then imagined its presence in the ovule before conception; and finally throwing aside the clogs of observation, Swammerdam and Malebranche conceived the pre-existence of germs, and their enclosure, the one within the other, since the commencement of time. This gigantic idea met with a success unequalled by the discoveries of Galileo and of Newton. But how incredible that the whole of the past and future generations should have been enclosed within the ovary of Eve, our common mother; and that however invisible the embryo may be within the ovum, it is not the less an exact repetition of the adult man! Embryogenic researches hence presented but slight interest. For what purpose, said people, waste one's time in labours of so difficult and delicate a nature, if the youngest embryo presents but the miniature of the perfect animal? What can science gain from this study of infinitely minute productions, if such beings are nothing but what nature shews us on a large scale at another age in man and animals? What answer could be given to arguments apparently so decisive?

This abandonment of embryogeny was still more effectually brought about by the researches of Malpighi with the microscope, while Haller, at one time a partisan of epigenesis, at another of pre-existence, eventually declared himself for the latter system. A remark which I have already made, and which here again presents itself, is, that the primitive principle of organogeny was the indivisibility of life, and consequently the unity of its gradation in beings endowed with it. Organized nature was not separated into two kinds, the vegetable and the animal, but was considered as but one, and undivided, although endowed with various degrees of perfection. Malpighi, however, adopted new views, and stood forth like a giant from the host of embryogenists who preceded or have followed him. Commencing the study of organogeny, by the consideration of vegetable life, he applied the knowledge thus gained to the first formation of animals. Taking up animal embryogeny at its primary starting point, he compared its first formations with those of the vegetable kingdom, of which they are but an imitation, and was thus led into a field of discoveries, the full value of which he himself did not appreciate. Before his time, although the existence of the *cicatricula* had been frequently pointed out in the ovum, no one had traced in its composition the first outline of the embryo. It was reserved to Malpighi to overcome this task. And with what clearness did he trace the arrangement of the *blastodermic* membrane! How beautifully did he define the first appearance of the vertebral column, together with that of the nervous system, and also what was still more difficult of discovery, that of the blood-vessels! The creator of organogeny, as Harvey had been of ovology, he referred these first formations, anterior to the appearance of the heart, to a *creating* action in the tissues, which had the power of repeating itself in vegetables and the inferior animals, and which in the superior animals, and man, presides over the molecular life of formation during the whole duration of existence. It is this power, the nature and essence of which are unknown to us, which we so often hear of under the names of *plastic force*, of *nisus formativus*, or of *organic vital properties*. These facts, however, remained unproductive in the mind of Malpighi, prejudiced as he was in favour of the theory of pre-existence. Centrifugal development being one of its maxims, Malpighi laboured to prove that the adipose system becomes propagated from the omentum to the other various parts of the body, that is to say, from the centre towards the circumference. Scarcely, however, had he emitted this general idea, when studying the formation of the adipose vesicles which compose the system, he found them developed from the circumference towards the centre, a fact since demonstrated by M. Raspail. The difference in importance, as a product, between an adipose vesicle and an ovigenous vesicle of de Graaff, appears immense; but not so in considering the mode of formation. When then Malpighi compares this ovigenous vesicle to a glandular body, when he makes it secrete the ovules in birds, not only does he make an immense step forward, but he overthrows the idea of the original enclosure of the germs, for it is clear that if the ovules are secreted by the ovigenous vesicle of de Graaff, their pre-existence is illusory. Here then, as every where else, the observations adduced in support of the centrifugal theory, went in reality to prove the truth of the centripetal law of development.

As in the theory of epigenesis, the successive formation of parts constitutes one of the precepts of organogeny; so in the theory of pre-existence this notion was rejected, since every organ was presumed to be developed at the same time, and from this abandonment naturally resulted that of the study of the laws of formation and of development. But as a kind of compensation, the system of homogeny then took a new flight. During nearly half a century all the efforts of anatomists were directed towards the discovery of a primitive tissue, of which all organisms were considered to be merely modifications. Hippocrates said that there was but one disease, of which all other maladies were simply modifications. Plato and Aristotle in like manner acknowledged but one animal, whose various metamorphoses produced all other animals. It was to prove the reality of these abstract notions that the anatomical philosophy of that period chiefly applied itself.

The fibrous tissue, the most easily observable in organs, was the first supposed generator of the others; the vascular tissue requiring the greatest difficulty in its preparation, needed the skill of a Ruysch for its demonstration. Lastly, it was reserved for the sagacity of Malpighi, in microscopic observations, to discover the *acini*, or small glandular follicles, in the intimate structure of the organisms. Glandular, fibrous, and vascular homogeny, were, however, never demonstrated, but new views and relations upon the various analogies of tissues and of organs were developed; views which eventually led to the organic *homology* of Vicq-d'Azir and of Spix, the system of organic tissues of Bichat, and the theory of analogues of Geoffroy Saint Hilaire.

In the midst of the animated discussions accompanying these researches, Boerhaave at first decided in favour of vascular homogeny, which favoured his theories, since so celebrated, especially that of pathological inflammation. The subsequent discovery by Malpighi of the early appearance of the spinal marrow, induced this acute observer to suppose, like other homogenists, that all parts were originally nervous, and that they all radiated at the commencement from the centre towards the circumference; thus was the hypothesis of centrifugal development, which seemed to have been for some time abandoned, once more revived. Under this state of things arose the school of Haller. Among these contradictory opinions it became necessary to shape some positive course in the study of organic formations. Unfortunately the influence of Haller was thrown into the wrong scale. On reading attentively the lectures of Boerhaave, and their able commentaries, we readily perceive that the science of organisms had assumed a new direction. Hitherto the *use of parts* as adopted by Galen had enjoyed but a secondary place in the study of the organic apparatus; this accessory portion suddenly became the essential and fundamental portion, around which all others were centred; *physiology*, in a word, became separated from anatomy as a distinct science. It became detached, not as a special science limited to man, but as a comparative science, that is to say, that it took man as the term of relation, and all animals as objects of comparison and subjects for experiment. With data apparently so simple, Haller founded a new science, and upon bases so enlarged, that his work has remained unaltered to the present day; it is a perfect encyclopædia of the natural sciences applied to the study of the functions of man. With reference to comparative organogeny, one of the first acts of this experimental school was to efface from science the chimerical organisms, introduced by centrifugal development. Thus for the purpose of carrying the adipose fluid from the centre towards the circumference, an order of adipose vessels had been invented, in the same way as neurolymphatic vessels had been created for the centrifugal circulation of the vital and animal essences, the existence of which, according to Malebranche, could not be doubted by any one. These vessels were, however, completely rejected, inasmuch as they could not be discovered by dissection nor by experiment.

By aid of this severe reasoning in the interpretation of facts, Haller refuted the theory of organic pre-existences, although previously bred up in this doctrine. He formally declared himself for epigenesis, which appeared to him abundantly evidenced by the observations of William Harvey, of Malpighi, Lancisi, Maitre-Jean, and by the experiments of Réaumur and Trembley upon animal regeneration. It was at this period of his scientific life that he laid the foundations of his grand theory of arrest of development.

By what fatality then was Haller drawn into the opposite opinion? What could have passed in his mind to induce him to conceive the entire animal within the ovum? To admit in its developments but an elongation of parts—to see the entire heart in its primitive canal—to refuse the evidence of his senses, when he perceived the auricles and ventricles superadded to this canal, and its muscular fibres appearing where they had not previously existed. How could he, after these facts, consider the embryo a repetition of the perfect animal? How, by this theory, explain the existence of certain organs in the embryo, and their disappearance in the adults—of the new intestinal canal which, in insects, succeeds the primitive one—of the bronchi which are replaced by the lungs—of the Wolfian bodies which precede the genital organs? How explain the regeneration of the head, the tail, the paw, and the reproductive organs, which had been demonstrated by the experiments of Reaumur, of Trembley, and of Mortimer? Not to dwell unnecessarily on these organogenic problems, Haller arrived at the conclusion, against his first sentiments, that epigenesis is impossible—that there is no part of the body of the animal made anteriorly or consecutively to the others; that in fact all parts are formed at the same time. He rejected even, what his predecessors and himself had before observed, the *successiveness* of organs. These authors, he pretended, merely wished to say that such parts are visible in the embryo while certain others are not. The whole is, however, *pre-existent* in the part. The animal is contained in the embryo, the embryo in the ovum, the ovum in the ovule, and all the ovules were enclosed in the ovaries of the first females. This was the principle at which Haller arrived with respect to the development of organisms. From the moment that he admitted developments to have simply the effect of rendering visible parts which previously were not so—that he reduced formations to an elongation, or a spreading out of the organisms—he created a necessity for imagining an active power capable of producing these results. Too much of a physiologist to admit an occult power, a visible force became requisite; the heart offered this condition in the fœtus and the adult; he, therefore, attached his theory to this organ, and supposed its existence and its action at all periods of embryonic life.

From data such as these, the system of pre-existences became the almost general belief of physiologists. Founded on false analogies, centrifugal development became the primordial law of developments, and the formation of the organisms was attributed to the heart. In fine, from this combination of errors, the physiology of the young embryo was put almost on a level with the physiology of the perfect being. Every thing is mutually dependent and interwoven in the sciences of anatomy and physiology. The functions necessarily attend the organs; these being declared unchangeable, the functions cannot be allowed to vary. As they are in the adult, so ought they to be in the young embryo, since the embryo is considered but a diminutive adult. Such, then, we will consider them. Now, who can hesitate to acknowledge that in the adult the circulatory movement is centrifugal? Who can doubt, but that in the infant, growth depends on the continuous transport of the sanguineous fluid from the centre towards the circumference? Who does not know that aliments introduced into the intestinal canal are converted into chyle, which from this central point is distributed to all the organisms? Who does not know, that to bring intra-uterine on a level with extra-uterine physiology, so many embryogenists have advanced that the fœtus is nourished by the waters of the amnios? Lastly, who will deny that the nervous action has its centre in the cerebro-spinal axis, and that it radiates from this central point to the periphery of the nervous system? These are common but no less positive notions. Are they, however, applicable to the young embryo and to organisms in the course of formation? This is the key of the question. The advocates of pre-existence assert the affirmative; but all embryogenic facts and observations lead us to the opposite conclusion. It is then, in these facts and in their rigorous interpretation that the theory of epigenesis finds its support; here it is that it is positively assured of victory.

Such was the system of pre-existences supported by Bonnet and Haller. This system seemed to be based upon two grand hypotheses. The one, in some measure borrowed from Leibnitz, was relative to the germs; it supposed these miniatures of vegetable and of animal bodies floating in space, circulating quietly in the various organized bodies until meeting with the mould in which they are to become developed; thus commenced the abandonment of the indefinite enclosure of these bodies. The second hypothesis related to embryogeny; the heart and its impulsive action replaced all the occult forces of the ancient physiologists, and the presence of this organ was imagined at all periods of animality. Of these two hypotheses, the first, entirely metaphysical, exercised but little influence over the subsequent course of anatomy; the second, which was perfectly physiological, became, on the contrary, the basis around which animal embryogeny was constructed. Plants, being destitute of a heart, were consequently rejected from the law of centrifugal development, vegetable organogeny was separated from that of the animal kingdom, and a distinction was formed of so complete a nature, that its traces are not yet effaced. In after times the rapid progress of zoology bringing to light a multitude of animals devoid of a heart, these beings, which are classed under the name zoophytes, were reputed to be developed without a known cause. The centrifugal law was thus limited to vertebrated animals, or to those of the invertebrata provided with a heart. It thus ceased to be a general law, and in fact lost all application, since, in their primitive state, the embryos of the vertebrata are Zoophytes.

This insufficiency of the theory of pre existences and of the centrifugal law, led towards epigenesis two celebrated contemporaries of Haller, Needham and Wolf. The first attacked the hypothesis of pre-existences; the second the theory of cardiac or centrifugal development; and both of these suppositions would from that time have disappeared from science, had not these two anatomists combined with their sound reasoning on facts, those occult principles of development which led them astray. After exposing the fallacy of the preformation of germs, Needham made public his beautiful experiments upon the formation of the infusoria. He traced the development of the *monades*, of the *vibriona*, and of the *vorticella* in various vegetable infusions, and to avoid the objection that these germs floating in space might fall into the infusions, and be there developed, he repeated his experiments in closed vessels, without communication with the air, and in infusions from which all air had been expelled by strong ebullition. The results were the same in both experiments; the infusoria shewed themselves in the last as in the first. Now, do we not here behold, asks Needham, the image of the primitive creation of organized beings? Does not this present us an explanation of the mystery of generation? Without being acquainted with the ideas of Harvey upon the transformation of beings, he observed that, among the infusoria, some were arrested at a primary development, others at a secondary degree, while some, again, reached a ternary stage—so that their animality seemed to become more perfect at each development. From these experiments, Needham concluded, first, that animals are developed by epigenesis, and that that which we denominate a germ, far from representing on a minute scale the perfect animal, does not even contain its first outline; secondly, that there is a complete progression in developments, the organ in the primitive state of animality imitating a species of crystallization; thirdly, that animal and vegetable substances, considered in their original state, are identical in nature; so that, he adds, under the influence of certain conditions, animals become vegetables, and vegetables animals.

What a pity that such elevated notions should have been disfigured by suppositions the most unintelligible! According to Needham, the whole progress of development depends on an all-powerful *expansive force*, and on a power of *resistance* destined to counter-balance the effects of the expansive force; and it is by a continuous and alternate balancing of these two forces, that animal and vegetable formations are guided. Such were the unintelligible notions of Needham. These ideas have lately been revived by M. Oken, with this difference—that he substitutes *electro-magnetic attraction* and *repulsion*, in the place of the expansive and repulsive forces. These obscure notions, in like manner, pervade the otherwise grand researches of Wolf. Nowhere do we find a more powerful advocate of epigenesis than this illustrious anatomist; no one would have contributed, more than him, to place it on its true bases, had he confined himself to the strict interpretation of facts; but, after demonstrating the insufficiency of the *powers of expansion and of resistance*, as advocated by Needham, he, in his turn, imagined an *essential force* and a *solidescence*, which appear to be but a copy of the former. The confusion of the Wolfian theory of generation is evidently owing to the constant admixture of facts with principles not depending, or even totally disagreeing, one with another. But on analyzing these facts, we find that the development of vegetables takes place by a successive interposition of vesicles, which become deposited in the interstices of what Wolf denominates the cellular tissue, and that the formation of new layers is the result of this vesicular addition. Passing from vegetables to animals, we see that the primitive state of animality is constituted by globules; so that on tracing, for instance, the umbilical region of the chicken, we at first find but small globular bodies, which, uniting together, form lines, and then red points, which Wolf denominates *iles sanguines*; lastly, these points become covered with vessels before the appearance of the heart. Continuing his researches with respect to the formation of this latter organ, Wolf ascertained, on the one hand, the lateness of its appearance; and on the other hand, that when it does appear it seems to be quite immoveable. When, shortly afterwards, its movements commence, they are at first so feeble that the globule of blood oscillates, as if under the action of a peristaltic movement.—To sustain the now tottering theory of centrifugal development, Haller conceived that the parts previously existed, although invisible, and that the heart acted powerfully, although its presence could not be ascertained.

Thus did Wolf overthrow the theory of the centrifugal action of the heart, while Needham had, in like manner, disproved that of the pre-existence of germs. There still remained the spontaneous or successive development of parts, whereby epigenesis was equally distinguished from the system of pre-formations. Wolf rendered to science this new service; he shewed that the parts arise one after another, and even that they proceed one from another by way of secretion; he made especially this profound observation, already indicated by Needham, viz. that primitively all parts of the animal are fluid, and, as it were, inorganic, and that afterwards the vessels become developed within them by an action peculiar and in some measure inherent to their tissue. Haller, however, refused to admit these conclusions. Steadfastly following up the researches of Malpighi, he had been compelled to abandon the original notions of Bonnet. He had become convinced of the fallacy of attributing development to a simple increase. Struck with the observations of Needham and of Wolf, and seeing under the microscope, sometimes even with the naked eye, the organs change in form and position while passing from one state to another, he expressed these metamorphoses by the name of *evolutions*. The theory of organic evolutions is a formal protestation against that of pre-existences; for, according to the former, the embryo is no longer an exact miniature of the

perfect animal; it passes through states different to its original one: in a word, it changes. Still there is a difference between this and epigenesis. In fact, as his observations were not commenced until the first formations were not accomplished, Haller was enabled to reconcile with the theory of evolutions his favourite idea of centrifugal development by the creative action of the heart; for, as I have just said, in the theory of evolutions, our researches are only commenced when the first formations are accomplished, we have merely to follow organs already formed through the course of their various transformations. In that of epigenesis, on the contraray., our views are more extended; our object is to unveil even the formation of organs. The domain of the one commences where the other finishes; epigenesis is accomplished when evolution begins.

PERISCOPE OF THE WEEK.

Being Extracts and Condensations from the Foreign and Home Medical Journals.

General Ill Health. The disordered state of health, for treating which Mr. Abernethy gained such a reputation, is, says Dr. C. J. B. Williams, one of the commonest ailments we have to prescribe for: some call it, with Abernethy, "all stomach;" others, "liver;" others, "disordered constitution;" others, "indigestion;"—but however differently they may name it, few refuse to treat it, as Abernethy did, by regulated diet, blue pill, and mild saline aperient, repeatedly administered. Now the pathologist analyses the symptoms of such a state, and in the white or yellowish-furred tongue, morbid eructations, tender epigastrium, sometimes full right hypochondrium, with extended dulness on percussion, the discoloured fæces, the high-coloured and turbid urine, he finds proof of congestion and disturbed secretion of the liver and upper part of the alimentary canal; and he recognises in the remedies employed means which, by increasing the secretions, relieve the congestion; and if these fail, he can suggest other measures which he knows to be efficacious in removing congestion and restoring the natural secretions.

Absorption of Stomach.—Mr. Heron, of Lucan, mentions a sea-gull, accustomed to shew most voracious appetite, which, after being fed for a week on bullock's liver, declined eating or drinking, and died on the twenty-seventh day after being confined to the liver. On opening the bird, there were found neither stomach nor intestines; but in their place a light tissue of cellular membrane, with a little glairy yellowish fluid We are offered no explanation of this extraordinary result, except the incidentally mentioned fact, that the bird would swallow rats and mice whole, &c.

Encysted Abscess of the Brain.—Dr Browne, of Newbury, favours us with a singular case. The patient was a young female. The symptoms during life were, scrofulous aspect, pain over the *frontal* region, intense vomiting, of a peculiarly colored fluid: pulse seldom above 90, with heat of skin. After many days in this state, during which, the doctor considered her to have gone through the stages of common gastric fever, the pain in the head changed to the occiput, her stomach ceased to retain food when she reposed on her left side, hectic set up, followed by purulent expectoration, and death at the end of a seventy days illness. Though there was no delirium during life, convulsions, nor paralysis, nor ear ache, the *post-mortem* examination showed an encysted abscess as large as a walnut, filled with pus of a scrofulous appearance, in the left lobe of the *cerebellum*. The lungs were full of Tubercles.

Operations in the Parisian Hospitals.—M. Malgaigne, inquiring which are the most serious amputations—those performed on account of disease, which he calls *pathological*, or on account of injuries, which he terms *traumatic*, finds that of 789 amputations there had been 524 pathological, and 193 deaths, that is to say, 38 in 100; and 265 traumatic, with 130 deaths, or 19 in 100. He then divides them into greater and less amputations, the mortality in the former being 48 in 100 of the pathological, and 64 in 100 of the traumatic; in the latter 12 in 100 of the pathological, and 15 in 100 of the traumatic.—M. Malgaigne has only been able to obtain the documents of 26 amputations in the thigh; of these 16 were primary and 10 secondary: of the former 12 died, of the latter 6; and 43 amputatioos in the leg, of which 33 were immediate and 22 died, 10 were secondary with 7 deaths: but from these few cases M. Malgaigne would draw no conclusions. —With regard to sex, the results are: great pathological amputations; men 280, deaths 138; women 98, deaths 44. Smaller amputations; men 106, deaths 9; women 40, deaths 2. Great traumatic amputations; men 165, deaths 107; women 17, deaths 10. Small traumatic amputations; men 73, deaths 13; women 10, deaths 0. On the whole women recover better from amputations than men.—Age exercises a remarkable influence on the mortality. In great pathological amputations from 2 to 5 years, 4—2 deaths; from 5 to 15, 57—15 deaths; from 15 to 20, 66—28 deaths; from 25 to 35, 128—63 deaths; from 35 to 50, 72—40 deaths; from 50 to 65, 40—29 deaths; from 65 to 80, 11—5 deaths. In small pathological amputations from 5 to 15 years, 16—0 death; from 15 to 20, 27—1 death; from 20 to 35, 19—3 deaths; from 35 to 50, 33—5 deaths; from 50 to 65, 17—1 death; from 65 to 80, 4—1 death. In great traumatic amputations from 2 years to 5, 1—1 death; from 5 to 15, 9—7 deaths; from 15 to 20, 15—8 deaths; from 20 to 35, 65—39 deaths; from 35 to 50, 54—36 deaths; from 50 to 65, 30—21 deaths; from 65 to 85, 8—5 deaths. Small traumatic amputations from 5 to 15, 5—0 death; from 15 to 20, 12—1 death; from 20 to 35, 30—0 death; from 35 to 50, 28—8 deaths; from 50 to 65, 11—3 deaths; from 65 to 85, 3—1 death.—With regard to different seasons, M. Malgaigne finds that of 394 cases, 26 amputations took place in January—11 deaths; in February 24—12 deaths; in March 37—20 deaths; in April 28—11 deaths; in May 49—27 deaths; in June 46—27 deaths; in July 27—9 deaths; in August 45—21 deaths; in September 31—18 deaths; in October 32—15 deaths; in November 20—11 deaths; in December 26—9 deaths. So that in the four winter months, usually considered the most unfavourable, the mortality did not average one-half, whereas in the months usually preferred, it exceeded, that limit. The autumn is the most unfavourable, next to it the spring; and the result is the same whatever be the nature of the amputation. Nevertheless, winter appears as fatal to young subjects as it is propitious to the more advanced. M. Malgaigne next considers the relative mortality in the different Parisian hospitals, placing the Hotel Dieu sixth, and La Charite second in rank of success. In the most fortunate hospitals for pathological amputations, 1 death occurred in 5; and the least fortunate 9 in 10. In the most fortunate for traumatic amputations 3 deaths occurred in 10; in the least fortunate all the patients, who had been operated on died. M. Malgaigne does not pretend to explain this difference, but says it does not depend on the operator, as he does not carry his success from one hospital to another. All surgeons have considered a gun shot wound of the middle of the thigh to imperiously demand amputation; but M. Malgaigne considers this operation so dangerous, that he would prefer to leave the patient to the efforts of nature.

Genito-Urinary Organs.—Civiale conducts his *post-mortem* examination of these as follows. Incisions on each side of the body are carried from the external margins of the abdominal ring, so as to meet each other at the posterior portion of the anus, and the pubes and ischium are divided in the same direction. The kidneys are detached without dividing the ureters, and, having made an incision through the intestine at the sacrum, the contents of the pelvis are easily removed. Having placed the parts upon a table, the portion of the pubes and ischium which have been sawn through are removed, so as to expose the anterior part of the bladder, the upper surface of the prostate, and the deep portion of the urethra. A catheter is introduced, and, having punctured the bladder at its fundus, an incision is extended through its body and neck, and the membranous portion of the urethra, to the root of the corpus cavernosum. The lateral and lower parts of the urethra are left undivided, for it is here that the chief alterations are found, care being always taken at once to examine the orifices of the seminal canals. In many of the examinations which Civiale has made of persons who have died after retention, or other affection of the urinary organs, he has found great dilatation of these orifices, and large quantities of pus have issued upon pressure of the vesiculæ seminales. The changes in the vesicular are those usually found as the result of inflammation, leading to disorganisation; it terminates sometimes by suppuration, but usually by induration, or even ossification.

A Sheep's Tooth in a Child's Socket.—In 1841, Mr. Twiss, of Kerry, extracted a broken front tooth from a young lady, aged twelve years, and put in its place the front tooth of a yearling sheep, reeking from the jaw, having shortened its root a quarter of an inch. After the first week, the tooth at first being much too small for the space, it became more and more firm, and has enlarged, but not so much as it would have done in its pristine state; a circumstance observed in transplanted trees. Mr. Twiss selected the sheep from the extreme cleanliness of that animal, and the beauty and aptitude of the teeth, at two or three years old, when about the size of adult human teeth, and more likely to grow when transplanted. The root may be shortened or pared to fit and keep in *situ* by waxed silk ligatures.—

Employment of Belladonna in Phthysis.—Dr. Delhaye has derived much advantage in practice, from the employment of belladonna in the early stages of pulmonary tubercular phthsis, and against those prolonged nervous coughs which are the precursors of consumption. He administers the powdered root of this plant in fractional doses of from 25 to 50 millegrammes, in the course of twenty-four hours. In the case of irritability of the stomach, he prefers the extract or tincture of belladonna: the first of these two substances is prescribed in the same dose as the powder; the second, in doses of 20 to 30 drops. According to Dr. Delhaye, this tincture is also one of the best palliatives to which we can have recourse, to moderate the colliquative diarrhœa which so often cuts short the life of phthisical subjects. He considers it indispensable to the success of this treatment, that it should be adopted only when the stomach is healthy, and, according to him, gastro-enteritis is a formal contra-indication to its employment, the existence of which is frequently the first cause of the fatal termination to chronic diseases of the chest.

CLINICAL LECTURE DELIVERED BY MR. GUTHRIE, AT THE WESTMINSTER HOSPITAL, SATURDAY, OCT. 15TH.

GENTLEMEN,—I desired last Saturday that notice might be posted up in the hall, of my intention to give an introductory this day to my lectures, having refused to permit my name to be placed in the list of clinical lectures for this season, because I do not choose to promise that which I may not perform. I read in the *Lancet*, early in the present year, some incidental observations on this subject, from some one purporting to be a student: my mouth was immediately closed, not one word have you heard from me since. I have, however, now reason to believe that the gentleman who wrote these remarks, is not a student, and I do not think it right to punish the innocent for the guilty. I shall, therefore, notice some of these excellent cases, and bring the individual subjects of them before you,' which, during the first six months of this year, brought me almost without one exception every day to the hospital; and I shall be happy to think that even one half of you paid them only half the attention they received from me. It appears to me that some gentlemen wish to run down this hospital, both as relates to the relief the poor receive, and the instruction which students may obtain at it, by inveighing strongly against the management which does, and does not take place within its walls. I regret very much that many of the assertions of mismanagement, are, in all probability true as relates to the medical arrangements, many of which, are not in my opinion fitting for a public hospital in London. They are, however, all of them good, and well adapted for a parish infirmary; but, as long as it may be thought right to continue them here, the hospital must remain in a depreciated state, both as a place of refuge for the sick poor, and as a school of instruction.

When things become so bad that any change must be for the better, we may hope for improvement, and I care not how soon this takes place, for I confess, I shall look forward with the hope that this hospital will then rise from its remains, and assume that character, and obtain that reputation, it never can have under existing circumstances. I have done my endeavour to remove the abuses and grievances of which I am sensible; but I abhor all disputes and squabbling, more particularly when they become personal, and I have no wish to contend with gentlemen whom I personally respect, although I believe them to be in error; and even if I thought right to do so, I have not the time to spare which the forms of the hospital require.

With respect to you as students, I have not recommended one to come here, I have not invited you in any way, you have come because it suited your own views, and being here, I am at all times happy to give you every information in my power. My days of attendance are Tuesdays and Saturdays, according to the rules of the hospital. You will see it painted up in the hall that I also attend on Thursdays, believing that every physician and surgeon should see his particular case three days a week, and when I have any one in danger I visit them every day. You need never expect me before a quarter past one, and never wait for me after a quarter past two, before which time the assistant surgeon will go round with you, if I should be absent, and whenever he does the duty of one of the surgeons, he ought to receive a regulated proportion of the money which the seniors derive from the fees you pay for permission to attend.

I am never so contented as when you make yourselves constantly known to me, by obeying my injunction; so frequently repeated, of walking up to me, and repeating your names in my face; I do not desire one word more. When you wish anything from me, you have only to ask it; when you desire to have a clinical lecture on any subject, you have only to shew that you have yourselves attended to it, by presenting your own notes of the case, or cases, on which you wish to have my opinion, and your request will always be granted. You have only to conduct yourselves with order, regularity, and with strict attention to what I say to you, as there is nothing I can do, that I will not do to serve you; but as to obtaining anything from me by any other line of conduct, it is not to be done. I have never perceived the slightest mark of personal disrespect to myself on any occasion, and I believe it is the last thing any one of you would think of offering, and as to what idle persons may write in your name, we will not in future give it any consideration. I shall judge of you, by what you say and do here, and I will think the better of any young man who comes up to me boldly, but respectfully, to state his wishes or his grievances, even if the complaint should be against myself. With respect to the office I hold here, I value it very little as relates to money. There are two or three of the influential governors, who know it is at their service whenever they please to ask it, and, in fact, I only keep it because I hope the day is not very distant when I may be able to make my resignation more useful to the profession and to the public than it would be at the present time. I think it exceedingly unfair to the younger men, who are hanging on or about every hospital, that they should have no hope of the opportunity of distinguishing themselves, except by the death of perhaps their best friend.

The Governors of the Ophthalmic Hospital at once assented to my proposition that every surgeon should retire when sixty years old, and I shall retire when I attain that age, although, perhaps, that institution is indebted to my constant care and superintendence for its existence. I proposed to the Governors of this hospital that every physician and surgeon should retire at sixty-five years of age, and they were pleased to make it a law for all such persons who may in future be elected. They spared the present ones very much against my wishes, and have perpetuated an evil for some twenty, or perhaps thirty years, which I hope myself and my colleagues will have the virtue to remove. When I had the honor of being elected a member of the Council of the College of Surgeons, I found regulations existing which had been made many years, requiring an apprenticeship, or studentship, for six years, one only of which was required to be spent in studying surgery in a London hospital, for which year the same sum was paid, you pay now, the age for examination being 22. This I considered with others a great error, and we applied ourselves so steadily for its removal, that we have at last succeeded in reducing the time of study to four years, the age to 21. If the young candidate for the medical profession remains at school until he is seventeen, he will in all probability have profited considerably by its ordinary instruction, and have gained sufficient preliminary information to qualify him to pass through life without remark, if not with much credit, and I hope the forthcoming act of Parliament will enable us to secure such preliminary education, for I regret to say that among those students who entered the profession some years back, and are only now presenting themselves for examination under the Regulations of 1835, there are many who cannot spell very common words in their native language. If the first year of the professional education of a student were passed in the apothecary's shop of an hospital, or that of a practitioner visiting the sick wards occasionally, he would acquire a sufficient knowledge of the making up of medicine, and of the articles themselves, and something of other things that would smooth his path, and remove many difficulties which he would otherwise experience by going at once to lectures in an hospital. When we augmented the course of surgical study from one year to three, we took care you should pay no more than was expected from you thirty years ago, and the whole amount of fees for hospital attendance, including the practice of the physician, as well as of the surgeon, and all the lectures you are required to attend does not exceed at this hospital seventy pounds, and is very little, if anything, higher at any other. You could scarcely learn to black shoes in a fashionable manner—certainly not to make them—for less money. We did more—we considered that if we caused your friends to keep you at school until you were seventeen, instead of sending you into a shop to open the door, and perform other menial offices, at fourteen or fifteen, and thereby incur an additional expense in your education, we might with propriety save them the expense they would incur in your support the last year to 22, and we made the period of examination 21, instead of 22. We also removed the great grievance of which so much was made, of confining instruction to the London schools, and we enabled a student, who might live in a provincial town which had an hospital and school, competent for the purposes of instruction, to pursue his studies at home, and therefore at little or no expence. I always thought that we, who succeeded in effecting these things, had done the profession some service, and I have been surprised lately to see myself accused of doing exactly the reverse. It is true, I have not thought it necessary, to enter into explanations on these points. I have I fear, in fact, hid my light under a bushel. I have now ventured to state the fact, and I trust that those who had previously been misinformed, will not feel offended at my correcting these accidental misrepresentations; I will even beg of them to try me in future by a different rule, and whenever anything is done in which I may be supposed to have had a part, in which public justice, or the best interests of the public do not appear to be sufficiently consulted, and that private interests have been preferred, to believe that the transaction has not had my support. I am aware that in causing you to attend an hospital, and to study anatomy for three years, it may be said, that a horse may be brought to the water, but that he cannot be made to drink; which I do not dispute. I have, however, seen some thousands of horses taken to water, and have always seen them drink, unless they had lately drank before; and I am of opinion, that if a young man attends an hospital regularly, he is much more likely to learn than if he should not attend at all. The proof of such attendance is derived from the reports and certificates of the teachers, and if the regulations on these subjects had been duly complied with, that proof would have been complete. The surgeons and teachers of the large hospitals declined to comply, and the college gave way. I need not tell you the regret I felt on the occasion, and I may add, that there is no abuse so great in the profession as the manner in which gentlemen grant certificates; sometimes even of an attendance which has never taken place, and for persons not actually in the country, all I am willing to hope out of pure negligence; but the subject is too painful to comment upon, and my only consolation on this point is derived from the belief, that these irregularities will, in the course of the ensuing year, be effectually corrected.

With regard to the lectures you are ordered to attend, I am of opinion that every student should be a perpetual pupil to all; but I would not advise a regular attendance on more than one course of each, in order that the student may learn the history of the art and science he is afterwards to acquire a knowledge of by his own labours, under the observation and with the assistance of his teachers. On the study of anatomy I have much to say, but I have only time to point out to you, and to exhort you to avoid the error of learning anatomy in one place, and physic and surgery in another. Nothing can be more absurd than the peripatetic mode so frequently adopted, of walking from one end of this great town to the other to study anatomy, and back again to learn physic. They should both be taught at the same place, so that all the teachers may act together for the good of the student and the public, and where this is not done as it ought to be, I would recommend you not to attend.

I have heard it said that it is beneath the dignity of an hospital surgeon, or teacher, to ascertain whether his students are present or not, and that it is equally derogatory to the character of a student to have a watch set upon his attendance, to which I have always replied that the Regius Professors of Divinity, and others of equal rank, in the Universities of Oxford and Cambridge, do not think it unbecoming in them to ascertain that their students attend regularly, and that the hospital surgeons and teachers may do with great propriety what such men as these have done; and whilst the sons of the greatest men in this country

are regularly marked off every morning, as they go to-chapel in their respective colleges and the defaulters noted, medical students of the same age may and ought to submit to the same ordeal, which is purely for their advantage.

The inattention shown by many professors with respect to the attendance of their students renders another functionary necessary, who is called a grinder. As the time approaches for the final examination of the student at the College of Surgeons for the diploma, he becomes then sensible of the folly of his conduct in not attending to his studies; and he seeks a gentleman, who shall stuff as much information into him in a few weeks as may answer his momentary purpose. Thus crammed, as the term is, he fixes his day to go off, perfectly satisfied that he would forget all he had learned from his grinder in a month, if the grinding were not daily sustained. Under these circumstances, young men have frequently assured me they could describe a part or a disease they had not seen just as well as one they had. I have myself heard a student describe very well, the biceps flexor cubiti muscle, and not know it when shown to him. Anatomy is only to be learned by dissection; disease by attendance at the bed-side of the sick in an hospital. There is then to be acquired that confidence in your own knowledge which will enable you to manage and subdue a complaint without assistance from your teacher, and which confidence is only to be acquired by experience and observation—your whole life, in fact, must be one of continued study, and you will at last die having much to learn.

PRIVATE COURSE OF OPERATIVE SURGERY.

By J. NOTTINGHAM, Esq., Member of the Royal College of Surgeons of London.

LECTURE II.

GENTLEMEN,—The difficulty we have in tracing the precise limits of what is called operative surgery, declares at once the inconvenience, not to say the unscientific character, or absurdity of those divisions and subdivisions of the healing art, which frequently cause students to lose sight of the real affinities of its different branches, by attending to its arbitrary and apparent distinctions.

The expressions, *surgery and surgical pathology*, are, now-a days, often received as synonymous—while operative surgery, in which the hand of course is supposed to be engaged, does not generally include all those manual interferences, or operations which truly belong to the chirurgical part of therapeutics; for instance, the systematic works on this department of art frequently exclude all that relates to the application of bandages, or to the reduction of fractures and dislocations, a characteristic belonging more especially to the French treatises on this subject.

Some of the German writers have employed the name "Akieugie," for operative surgery; "'*Akis*, the needle, a point, &c., *Ergon*, work." while they have restricted the term Akologie to that which relates especially to surgical instruments.

The terms employed by the French are so much like our own, that we need not at present direct your attention to them; but here, and once for all, let us remark, that in this course of lectures, we intend to care less about words than about things, neither shall we feel ourselves bound to the repetition or adoption of such terms as akieugie, staphyloraphy, keratonyxis, scleroticonyxis, &c. &c., when any common English expression can be implied and at the same time convey an equally clear idea of what we mean; for no language can be regarded as pleasing which has not more or less the aspect of simplicity, and as we have a rich and beautiful tongue of our own, let us endeavour by the combination of its ordinary and intelligible elements, to make ourselves easily understood.

It is not perhaps a matter of very great importance which of the classifications of surgical operations we adopt, for scarcely any two surgical writers have agreed upon the peculiar excellence of any one method of treating this subject; we would recommend students to look at the systems adopted by Sabatier, Velpeau, and other French writers; and at those of Schreger, Zang, Grossheim, Blasius, and Biakowski, in Germany. Hitherto in England operative surgery has scarcely received that distinct consideration, which it has long had in the French schools. Hence the scarcity of systematic works on operative surgery which treat the subject in the manner of Velpeau, and others.

In some of the English works on descriptive and surgical anatomy, very valuable directions will be found, for the performance of many original operations, where a nice knowledge of the structure and relation of parts is required; this observation applies more especially to the operations for stone and hernia, and for the ligature of the arterial trunks, and the valuable writings and lectures of Key, Cooper, Lawrence, Liston, Quain, Harrison, and many others, will not be forgotten, while their value is duly appreciated.

INDICATIONS AND CONTRA-INDICATIONS.

If a patient suffer from a disease incapable of being relieved or cured by other means, and he be willing to allow of an attempt to cure it by surgical operation, more especially if he really desire that such operation should be performed without delay, and feel determined to rid himself of his complaint at any hazard; then would such operation seem to be indicated, provided that no accidental circumstance connected with age, or with bodily or mental condition present itself as a contra-indication, and oppose its execution. Circumstances, however, of this nature are numerous, and are every day met with by the surgical practitioner. Amongst them may be numbered the following:—

1. Peculiarity of age, as under 6 months, or more than 70 years of age.

2. Extreme weakness.

3. Great and unaccountable fear of the operation; especially of cutting instruments, or the fact of the patient having suffered in an extreme degree from minor operations previously performed.

4. Extreme irritability, such as to cause a fear of convulsions, extraordinary pain, or high fever,

5. The removal of large portions of the body, especially when this occurs suddenly.

6. The presence of diseases, such as scrofula, the venereal disease, or gout in an active state.

7. The fact of the disease to be operated upon having occurred from an apparently trifling cause, or its being developed in a manner, the nature of which is not apparent, but associated with some internal or constitutional change.

8. When the disease to be operated on is not purely local, or appears on some part of the body distant from that where its cause might have been expected to take effect; or when a similar disease prevails in different and distant parts of the body.

9. The long continuance of some general disease, which has caused the local complaint we have to operate on.

10. It is not desirable to operate on a patient who has lately undergone a course of mercurial treatment.

Lastly. Without further multiplication of such cautions, this concise one may be of use, viz., that the surgeon before he commences his operation, should ask himself whether he be about to do as he would be done by, *i. e.* whether on his own person, he would desire the operation under similar circumstances?

We cannot attach too much importance to the value of these contra-indications, in a general way, although cases of exception now and then occur, where prudence dictates an operation, although some of them may be present. An instance occurred to me about fifteen months ago, where in spite of the first contra-indication, or that of extreme age, it was thought proper, after due consideration, to amputate the fore-arm of a man upwards of eighty, who suffered extremely from disease of the left metacarpus. Every precaution was taken to prevent the aged patient suffering from great loss of blood, and the fore-arm was quickly removed, a narrow catlin being first passed through it before, afterwards behind the bones, and an anterior and posterior flap thus made; the case did extremely well, perfect union of the flaps having taken place in about a week. This venerable man was formerly in the navy, and was at the taking of a richly-laden Spanish galleon, about half a century ago, and he occupied himself during our amputation, by talking of the great prize he had assisted to capture. I saw him this morning, when he said that for some months after the operation he found his health improved, and accounted for this by his having got rid of the diseased hand.

The effects of impressions produced by great fear of cutting instruments, are sometimes sufficient to cause great apprehension,—and I well remember, at this moment, the horror depicted on the countenance of a young man of about 27, a patient of Dupuytren in the Hotel Dieu, who on the 30th November 1832, was brought into the amphitheatre, to have a large fatty tumour removed from the back of his neck. After a few minutes he allowed the operation to be performed, in which there was no particular difficulty.

He died on the third or fourth day after the operation, a *post-mortem* examination of the body was made, but no organic change was found which could be regarded as the cause of the fatal termination, and Dupuytren attributed it entirely to the great impression made upon this poor man by the fear of the operation.

While some patients evince the greatest possible fear of the approach of a surgical operation, there are others, who with an uncalled for bravado, pretend to treat it as if they could bear the torture it may occasion without betraying any emotion.

Both classes of patients must be carefully dealt with; the former are to be encouraged, and made to understand, that the value of the operation consists in this, that it is the most certain means which can be devised of removing, or mitigating the inconveniences or pains from which they have hitherto suffered: and if they greatly exaggerate its dangers, we must endeavour to disabuse them on this point.

The latter class, or those who might be suspected of displaying an artificial, or what might be called a morbid courage, must also be cautioned; they must be convinced of the importance to be attached to the part which they are called upon to act, and which they seem to approach with so little reflection. Let them understand that affected courage, does not take the place of real courage, and that it is dangerous to repress the expression of suffering, as it is useless to exaggerate it or utter it without motive, and that by doing so we violate the dictates of nature, which seem to be that we should always give utterance to the sufferings which our organs undergo, and that freely and without constraint.

It has been remarked by surgeons of great

experience, and Velpeau has well observed on this subject, that operations performed upon patients, pretending to, or rather displaying, an unusual calm and resignation, very often turn out unfavourably, and that generally speaking such an apparent state of feeling is to be regarded as a bad omen.

Occasionally in public hospitals we meet with those who appear to have a notion that they must be operated upon, whether they approve of it or no.—and the poor who suffer from diseases which come within the surgeons department, not unfrequently make this the source of an objection to enter a public establishment. It is of some consequence that such errors should be corrected by gentle treatment and persuasion, for by adhering always to truth there is no doubt but we shall be successful *in* eradicating them.

ON THE EMPLOYMENT OF THE KNIFE.

The surgeon should choose, hold, and direct this instrument, so as to suit the particular operation he has to perform.

Perhaps the choice of the scalpel, knife, or bistoury, is scarcely made with that care which is desirable; that this instrument may be exactly suited to the incisions about to be made with it, the surgeon's set of knives should be complete, and contain a regularly advancing series of blades, from the delicate little instruments, found in cases for operations on the eye, to the longest catlin employed in amputation at the hip-joint. To have such a complete set of knives, is found very convenient in the practice of amputations, as corresponding limbs vary so much in size in different patients. If the set of knives be complete, the surgeon can scarcely fail to hit upon one well suited to his case, while it is exceedingly awkward to be obliged to amputate a limb, or remove a breast, with a knife too long or too short.

Before we proceed to speak of the manner of holding the bistoury, let us remark that it is not customary to treat especially of surgical instruments, in works, or lectures on operative surgery; nevertheless the student ought to familiarize himself, with the many varied and curious productions to which the name surgical instrument has been attached; such observation and study, if it may be called so, will have the effect of convincing the observer of the uselessness of a great many of them, and of shewing the advantages to be derived from the employment of those which are the least complicated.

"The simplicity of an operation is the measure of its perfection," was a remark of the celebrated Desault, and its truth is so obvious that surgeons have ever since been pleased to quote it. Some surgeons, and surgical writers, have had a peculiar fondness for numerous instruments, and complicated operations, which only tended to display a host of difficulties, of their own creating, which their own ingenuity could surmount. However, the day for these things has gone by; medicines, and surgical instruments, are fewer in number, many surgical books are shortened, operations are less complicated, but more complete and successful; indeed, the mystery and bombast of the early fathers of the art can now be dispensed with, for surgery is becoming a very common-sense sort of business, and young men need not serve an apprenticeship of seven years to learn how to keep secrets, as was common in days of yore.

MANNER OF HOLDING THE KNIFE.

In the teaching of dancing and fencing, we hear first of the positions of the feet and body, in operative surgery the positions of the knife are first introduced to our notice, and of these the principal are three; for the bistoury may be held like a table-knife, in the manner of a pen, or like the bow of a fiddle; these positions, however, are capable of certain modifications which we will now attend to.

FIRST POSITION.

Bistoury held as a Knife, edge downwards.

In this position the joint of the instrument is pressed between the middle finger and the thumb, the index finger is a little advanced on the right side of the blade, and the two remaining fingers support the haft against the hollow of the palm; in this manner the bistoury is securely held, and can be easily manœuvred in any direction.

SECOND POSITION.

Bistoury held as a Knife, edge upwards.

The edge of the instrument being directed upwards, its point is seized betwen the index finger and thumb, the haft now turned towards the palm is supported by the three remaining fingers.

THIRD POSITION.

Bistoury held as a pen; edge downwards, point forwards.

Here the thumb and two first fingers support and hold the instrument, while the two last fingers support the hand, by taking a point of rest on the neighbouring parts.

FOURTH POSITION.

Bistoury held as a pen, edge downwards, point backwards.

If when the bistoury is held in the third position, the wrist be bent, and the point of the instrument directed towards the operator, this, the fourth position will be given to it, the end of the middle finger, slightly changing position or moving from the right to the left side of the blade.

FIFTH POSITION.

Bistoury held as a pen, edge upwards.

The name of this position is sufficient to define it.

SIXTH POSITION.

Bistoury held like the bow of a fiddle.

Pulp of the fingers pressing one side of the instrument, the thumb opposing them on the other; the edge of the instrument in this position may be directed upwards, downwards, to the right or to the left.

By frequent handling and manœuvring the knife, particularly on the dead subject, we shall become well accustomed to the sensations as far as our own fingers are concerned, connected with these different positions of the bistoury, and shall be able adroitly to take advantage of them as circumstances may require.

The degree of force, or the amount of delicacy, or caution, with which the surgeon may find it requisite to proceed, will generally suggest to him at once the choice of that position best suited to his purpose.

The knife positions of the bistoury enable us to employ considerable force, the pen positions are favourable to more delicate touches of the instrument, while the fiddle bow position partakes somewhat of both. The bistoury should not open with a spring like a common pocket-knife, nor should it, as is very common, be fixed between the two halves of the haft, by a mere rivet like a razor, but in addition to this, should have some sort of catch, to snap and fix it firmly when it is once opened; made in this way the blade will not wabble about, when steadiness and firmness are requ'red, and the surgeon will not be put out of temper by the awkwardness of a badly contrived instrument.

THE SCISSORS.

Are handled by the surgeon as by everybody else—surgical scissors are straight, curved in their breadth, or curved in their length. The latter kind were never much used in this country until Dieffenbach's operation for squinting became fashionable amongst us, and some 40 or 50 new instruments were invented for doing a little operation for which even a penknife, or pair of common scissors out of a lady's work box might have sufficed. However both the operation and scissors are now much less fashionable than they were twelve months ago; but although the latter have no particular utility, the former is undoubtedly effectual,

Scissors are seldom required to be sharp at the point, they are generally better a little rounded, unless otherwise formed for some particular purpose.

The opinion which has prevailed that the incisions made by scissors partake of the nature of contused wounds, does not perhaps merit any particular attention; I have operated several times for hare lip within the last two years, both with the bistoury and scissors, and have had no occasion to find fault with the latter for any effect allied to contusion; whether the bistoury and scissors cut by pressing, sawing, or the union of both, or whether each has its peculiar mode of dividing the parts through which it passes, we will not at present consider.

It has been recommended to dip cutting instruments in oil before they are used—this does not appear to me to be a matter of any very great importance, but I have always found them to act more agreeably when their temperature has been elevated by a previous dip into hot-water; we know that razors cut much better with this precaution, and that a warmed catheter passes along the urethra more easily than a cold one.

CLASSIFICATION.

Surgical operations may be conveniently divided into

ELEMENTARY, GENERAL, AND SPECIAL;

At any rate no other division of the subject occurs to me at present, better calculated to serve our purpose by facilitating our studies. In the first set or elementary operations, are included the considerations relative to the division and re-union of parts, the doctrine of incisions and suture, to which we shall proceed in the next lecture.

All that relates to the handling of the amputating knife and the saw, will be noticed in our introduction to the subject of amputation.

Before we close the present lecture, Gentlemen, I will introduce to your notice, the subject of operations, which by patients we are from time to time requested to perform, even when we may be of opinion that some contra-indication is in the way.

Such operations, when they are performed, are called by our polished neighbours the French "*Operations de complaisance.*" The best surgical writers however, do not recommend them, and it is easy to understand the necessity of abstaining from the running of any risk, where there is no probability of obtaining any comparatively good result; nevertheless there are cases of this kind, which present certain difficulties where it is not so easy to decide as might at first be supposed, as to whether the surgeon should yield to the importunity of the patient, or steer a decided course of opposition to his wishes. An operation would seem to me to be sometimes warrantable, although its issue be exceedingly doubtful, if the patient have a great desire that it should be done.

Certain cases of removal of malignant tumours might here be adduced by way of illustration. Cancer of the breast for instance, the removal of which by surgical operation is not now regarded in so favourable a light as it was twenty years ago. A case of this kind came under my notice last week, where a female, aged 45, a widow, who had borne children, called upon me not so much to consult me re-

specting the nature of a cancerous tumour of the left breast, as to request the immediate removal of the part by the knife. The nature of the case having been previously explained to her by other practitioners, and the operation, as the only possible means of cure, having been mentioned.

The tumour had already attained a considerable size, the nipple was retracted, or rather completely inverted, but there was no remarkable adhesion to the parts beneath, for the tumour was perfectly moveable in every direction and felt as if imbedded in a large mass of fat; the breasts in this patient being of unusually great size. From the feel and appearance of this cancerous growth, one would have supposed its development had occupied twelve months at the least; yet the patient's history declared that she knew nothing of it until between two and three months ago, when at its upper part the integument inflamed and ulcerated, adding that there had been no pain in the part before this period, and scarcely any since.

Her general health is excellent, and the aspect of the countenance healthy, with none of that sallowness or peculiarity of appearance so frequently associated with the existence of malignant disease.

The general health being good, the general aspect favourable, the tumour of the breast not adherent, the axillary glands having undergone no change that could be appreciated, and the patient wishing to have the diseased part "taken out as soon as possible," her request was complied with and the breast removed.

Here we may be allowed time for two or three remarks which will seem more or less out of place.

I have several times met with cases of schirrous tumours in the breast of women who had never borne children, and have some reason to think that cancerous degeneration of the mammary gland is more common where this structure has not performed the function for which it was destined at the ordinary period of life. In the case just now related, the affected breast had not been employed in suckling the children previously borne from want of development of the nipple, the opposite breast doing the office of both. Perhaps by the careful collection of a good series of facts of this nature we might, from correct statistical reports, ascertain whether or no any importance is due to these considerations, not only as they affect schirrous tumours of the breast, but in their application to similar diseases in the os and cervix uteri.

In the instance above noticed it might be said that the circumstance of perhaps an active secretion of milk without the ordinary efforts being made by the child for the depletion of its reservoir, was that which told against the future welfare of the part, suggesting the thought that want of exercition as well as secretion, may now and then interfere with the future safety of the mammary gland.

EXTRACTS FROM FOREIGN JOURNALS.

(For the 'Medical Times.')

FRENCH.—*Rupture of the Perineum throughout its whole extent; Communication of the Vagina with the Rectum; Successful Treatment by Suture.* By M. Roux.

Case.—Delalande, 22 years of age, of a good constitution, presenting a natural conformation of the pelvis and parts of generation, was put to bed for the first time. She experienced unsettled pains for the first 24 hours, the fœtus being in a good position, and the labour not much advancing, when the medical attendant applied the forceps. This unseasonable application caused great pain; the child was withdrawn, but at the moment of extraction the perineum was ruptured. The infant was well-developed; it weighed 18 pounds; the bones of the cranium were fractured by the forceps, and it died five minutes after birth. The lochia came away readily; the perineum was considerably inflamed; the bowels were not moved for seven or eight days, but for three months afterwards she was almost constantly affected with diarrhœa; the stools sometimes escaped involuntarily, and she became greatly weakened by the purging. The bowels were only slightly constipated by means of rice and coffee. She entered the Hotel Dieu on the 7th of August, three months after her accouchement.

Operation.—The day previous to the operation, we administered two lavements. Two portions of the skin were removed, so as to refresh the sides of the fissure, which had become cicatrized, and a similar process performed for the anterior surface of the recto-vaginal partition; three ligatures were applied by means of strong curved needles; the middle thread, finer than the other two, passed through the substance of the partition, so as to be brought forwards and fixed against the edges of the wound. After the application of the threads, and the approximation of the lips of the wound, a superficial twisted suture was applied, to keep in immediate contact the everted edges of the opening. A female catheter was introduced. The operation lasted 10 minutes. No bad symptom occurred, beyond a very copious muco-purulent discharge from the vagina. The operation was performed on the 11th, and the threads were removed on the 17th, after administering a dose of castor-oil the previous evening. She had, from the first, been unable to pass her water, so that it was necessary to use a catheter frequently, up to the 22d of August. When she left on the 30th, the cicatrix was firm and smooth; but there was a small recto-vaginal fistula behind; she was very weak. Three months afterwards, there was no trace of the rupture; the orifice of the vulva was greatly contracted. The small fistula had become completely obliterated, and all the tissues were firm and resistent.

Prolapsus of the Rectum of Six Years' Standing, occurring after a Natural Labour: Suture of the Lower Extremity of the Rectum: Incomplete Cicatrization. By the Same.

Case.—Janicot, 38 years of age, of a delicate constitution; this women had not always laboured under this affection. At the age of 32, after a natural and favourable labour, she for the first time perceived a tumour which escaped from the anus after the motions, or prolonged walking; this tumour she was obliged to return, although sometimes exceedingly difficult; from time to time, slight hæmorrhage occurred. For six years this state continued, without her being confined to bed; she, however, became greatly reduced, and was often troubled with diarrhœa. On the 8th of July, she entered the Hotel Dieu. Her appetite was still good. The tumour of the rectum was as large as two fists. This tumour, formed by the distended mucous membrane, was red and smooth; when pushed up within the anus, the perineum appeared flabby, the rectum relaxed, and the cavity above the sphincter of considerable size. By introducing the two fingers into the anus, the sphincter could be dilated, so as to shew the interior of the rectum.

Operation.—Two transverse incisions were made, each of the length of 3 *centimetres*, along the sides of the anus; from the outer extremity of these transverse incisions, two longitudinal incisions were carried, so as to converge towards the posterior part of the anus; in this manner two flaps were detached; the refreshed surfaces were drawn together by means of the twisted suture. A second superficial suture was afterwards applied, to keep the parts more perfectly in contact. Six hours after the operation, the patient withdrew the first suture, so that the superficial one alone remained; no hæmorrhage had supervened. During the last seven days, she hadhad no stool; some castor-oil was given her; copious stools during the night; no prolapsus had since occurred. On the eighth day, the remaining threads were removed. The twentieth day,—diarrhœa occurred; she was obliged to make continual strainings; the prolapsus, however, has not reappeared. The operation has apparently succeeded; but a relapse may probably occur as the layers are but superficially cicatrized. Complete cicatrization would probably have occurred, and so a perfect cure have been established, had not the patient had the stupidity to remove the suture a few hours after the operation.

(To be continued.)

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GERMAN.

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*** The German works above announced, may be had through Mr. Alexander Black, 8, Wellington Street, North.

FRENCH.

Lisfranc, J., *Clinique Chirurgicale de l'Hôpital de la Pitié*—Surgical Observations, 2 vols. 8vo. 16s. ——Chavannes, H. de, *de la Giraudière, Comment on peut cultiver avec succès le mûrier dans le Centre de la France*, 8vo.—On the Successful Cultivation of the Mulberry-tree in the Centre of France.——Rapon, Auguste, *Compte Rendu du quatorzième Congrès Homœopathique tenu à Leipsig, le 10th Août.* 1842.—Account of the 14th Meeting of the Homœopathic Society in Leipzig, the 10th Aug. 1842.——Dupont, Paul, *Dictionnaire des Formules.* 8vo. 9s.——Ledentu, *Esquisse d'un Nouveau Mode de Traitement des Maladies Chroniques de la Poitrine, de l'Estomac, &c.*—Sketch of a New Mode of Treating Chronic Diseases of the Chest, Stomach, &c. 8vo.——Rey de Sougla, *Guérisons Radicales obtenues aux Consultations Gratuites de la Médecine Chimique*—Radical Cures obtained by Gratuitous Consultations. 12mo. 2s.——Bourgery, *Traité complet d'Anatomie de l'Homme*—Anatomy of Man. Folio. Liv. 62.——*Encyclographie des Sciences Médicales.*——*Encyclopédie des Sciences Médicales*, No. 120.

*** The French works above announced, may be had through Dulau and Co., Soho Square.

SCHOOL OF MEDICINE, PARK-STREET, DUBLIN.—The Winter Course will commence on the 1st of November.
Anatomy and Physiology—Hugh Carlile, M.D., T.C.D., John Denham, M.D.
Surgery—J. W. Causack, M.D., M.R.I.A.; John Houston, M.R.I.A.; C. Fleming, M.D., M.R.C.S.I.
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Secretary, JOHN HOUSTON, M.D., 31, York-street

TO CORRESPONDENTS.

The interesting case of Epidemic Erysipelas in an early number.

We have received a second startling communication from Mr. Macpherson Adams on his Mesmeric Experiments in Paris, which we shall publish in our next number. It is right that we should add that we have the authority of a gentleman connected with our office, and on whose honour and judgment we place implicit reliance for saying, that no man has been less open in his past character to the charge of credulity, and none has ever shewn a higher respect or zeal for truth for its own sake, than the Mr. Adams to whom we are indebted for these singularly interesting communications.

Potash Water.—*A Subscriber thus writes to us on the subject of the recent inquest :—*

"Sir,—Methinks, Mr. Editor, there has been a little too much of *self* manifested by the surgeon throughout this affair—too much of an utter recklessness of whom he drew into the halter, so as he himself kept his neck from the noose. I should imagine it would be difficult to find a druggist in the kingdom who would not have acted precisely as did the one in the present case. The 'Liq. Potassæ' is very generally enquired for and spoken of as 'Potash Water.' In the Ph. Ed. it is called 'Aqua Potassæ,' and under these circumstances is not a man justified in sending out Liq. Potassæ for Potash Water. To suppose a person required the aerated, the '*real potash water as purchased at the shop of Savory and Moore, the well-known chemists of Bond Street, which completely resembles in colour and appearance a bottle of soda-water*,' would be an illegitimate stretch of the imaginative faculties. To label, indeed, such an article as Liquor Potassæ 'poison,' would evince an old womanish sort of caution, and by the prescriber would probably be taken as a marked affront, if he had intended that article. As well might the druggist label 'poison' the tinc. hyas.—tinc. colch—tinc. ferri sesquichlor.—tinc. canth.—æther.—and such like,because in large quanties they might destroy life."

We are not of our Correspondent's opinion on the propriety of the Druggist's conduct. On the contrary, we believe that in a case of doubt, he acted in a mode which would have been perfectly unjustifiable in a state of certitude. The messenger's account was . ost unsatisfactory, and, if perfectly satisfactory, no such preparation should have left his shop without carrying with it an indication of its dangerous qualities. The Surgeon's procedure was slovenly, and culpable to a most lamentable extreme, but if the Druggist had discharged his functions with due caution, the calamity which now presses on the character and peace of both would have been spared. These remarks must be our notice to several other correspondents who have written to us on this subject.

Several Communications have been sent to us which are under consideration.

Declined.—*Mr. T. F.—An Antiquary—The Ghost of the Lancet—Minos—A Pupil of Bartholomews' Echo—A Well Wisher—A Subscriber, (Edinburgh) —A Constant Reader (Edinburgh)—A Constant Reader (Beverley.) Some of the communications, however, will be turned to account.*

We have received accounts announcing meetings of Students' Discussion Societies in several of the Hospitals. Our space has been so much encroached upon by what even our friends, the students, will probably consider more important matter, that we can only do ourselves the pleasure of expressing the high gratification with which we hear of their very praiseworthy and self-rewarding efforts. We are glad to hear that the lecturers at Westminster Hospital, the King's College, and Charing Cross, are giving these best of schools a warm support.

A Practitioner before 1815.—*The College of Surgeons now admits (as we sometime since suggested it should do) respectable practitioners to examination without certificates, &c. The fee for the diploma, however is not reduced.*

We are asked "why the worthy Council of the College in Lincoln's Inn, have omitted in their list *the dates of their own diplomas, having published those of all other members?" We are not perfectly in the secret; but know that the omission was the result of careful deliberation. Some say that the thing originated in a piece of delicacy—in the fact that the rule was, that the place of the last new member of Council on the list marked a point, up to which the older, and yet excluded surgeons, had no chance of entry—for having once been passed by, their claims could never be reconsidered. Others say that the Memento was omitted on the principle which makes (we do not say* other) *ladies of a certain age, proscribe every fact which marks their whereabouts in the scale of time. For ourselves we attribute the important distinction to some sublimity of policy, whose heights and depths can only be fathomed by our* taciturn *friend, Mr. Babington.*

Dr. Wake.—*The double supply must originate, we should think, in a second order to another quarter. The rest will be carefully attended to.*

ERRATA.

In Dr. Hunter's Lecture in our last number, at page 37, col. 1, for *ulcerated* cells, read *nucleated* cells; and in Professor Owen's Lecture, page 35, col. 2, for *Gall* read *Gall*.

THE MEDICAL TIMES.

SATURDAY, OCTOBER 22, 1842.

They manage these things better in France.—STERNE.

OUR readers will remember that we last week spoke of the *amabilis insania* of the Drug Solons of Cockayne—the enterprising gentry, who, though smitten with the tongues of heaven knows how many bad and conflicting interests, are thinking of piercing the skies with a Pharmaceutic Babel. On reviewing the terms we then used, we are struck with their lacteal mildness, and at the wide chasm which gapes between them and the mighty presumption they aspire to depict. In the whole range of legislation we know not where to find a question, which, threatening to affect so extensively large social and class arrangements, involves higher matters of right, or expediency, or brings under discussion, subjects of more complicated, or momentous interest, than the question which yet to be settled between the British druggists on the one hand, and the British Medical profession and the public on the other, has been coolly taken up for definitive arrangement by Mr. Jacob Bell, and some half dozen dispensing hands of his domestic acquaintance. Napoleon's highest feat—which will endear him to philosophers, when children shall have learned to speak of his military name with horror or contempt—his immortal code of laws,—this in its different parts presents no higher distinction wherewith to wreathe his massive brow, than the magic power with which he formed for his country an enlightened body of pharmaceutists, and guaranteed to her in perpetnity, with the least possible drawback, all the benefits which the very best governmental arrangements could extract from them. If our governors (shall we include our pharmaceutic committee-men?) have the aid of his splendid example, it must be remembered that they have also difficulties which he had not. England is no *tabula rasa*. Its habitudes and laws of centuries oppose a stout barrier to all legislation, which is at once novel and bold. In its complicated social state, the destruction of the *bad*—especially of a *bad* extensive and involved as that we are considering—is often a greater difficulty than the erection of the good. Yet here we must either have old habits and laws swept away by wholesale, or grapple with the harder duty of making our new arrangements destructive of the old evils, yet in symmetry with the old system. Enlightenment in the lawgiver, and fairness in the legislation, are not enough,—power and boldness must correspond. The best of changes in England must be evil for some one, and the man knows little of English history, who knows not how often the justice a well meaning lawgiver would do to posterity, is arrested by the hardships the act would inflict on contemporaries, or how often the boon demanded by fairness for the many, has been denied by the cruelty its concession would be to the few.

The regular induction of pharmacy into our country, and its establishment as a science with a competent body of cultivators—things that yet rank in the class of *desiderata et valde deflenda*—is a work of three aspects, each of dominant importance. The pharmaceutists, medical men, and the public, are each and all interested in every step taken ; and contending, as may appear their varying claims, or rather rights—we dare not say interests—the legislator, who undertaking the matter, shall fail completely to reconcile them, will have worked to little purpose. For our part—though without believing that the solution of this difficulty is *quite* so easy an affair as Messrs. Bell and Company evidently consider it—we venture to think that the simple, but comprehensive scheme we have often glanced at, and now more distinctly propound, if carried boldly and prudently into practice by a well meaning government, would, while doing justice to all parties, and no small service to science, relieve us for ever from this vexatious and harassing question.

Firstly.—We would ascertain the competency of every druggist in the Empire to perform the duties of his position. To this end we would at once have provisionary Courts of Examiners appointed. No man who should not satisfy them that he could discharge the functions of a druggist with safety to the public, should be allowed to practise pharmacy. The result of this would be obviously the retirement of hundreds of druggists ; a far less evil, however, than their continuance in practice. These useful secessions would cause no inadequacy of supply : our own unemployed, but tested brethren, would be too happy to fill the vacuum.

Secondly.—All druggists passing these

examinations satisfactorily should, without charge to them, have a diploma attesting their competency, and a license, allowing them to practise pharmacy. The process is for the public's good; and the public should pay for it.

Thirdly.—Provision should be made for securing the public, in the future, with a full supply of the most highly-educated pharmaceutists, that state-wisdom and power could produce. To this end, a good preliminary education should be demanded from every one commencing the study of pharmacy. A limited knowledge of Latin, if not of Greek, and a solid acquaintance with his own language, are of primary necessity; and, low as education undoubtedly is in England through its inaccessible expensiveness, these should yet be arbitrarily insisted on. Two years with a licensed druggist, though perhaps a matter of doubtful necessity, might not unreasonably be asked. Three further years should be spent at a government College of Pharmacy, which should at once be founded; and when this course is completed, an examination should be demanded always sufficient to protect the public—but varied in severity, proportionately, to the numerical wants of what would now be—a profession. We are far from wishing to limit freedom of education, especially, when competency is to be tested by a final examination; but the wretched position which English pharmacy now occupies, makes us see several utilities in the establishment by government, of four or five central normal schools, where the experience and knowledge of our few able professors might be turned to the most extensive and profitable account possible.

Fourthly.—We would adopt measures to confine pharmaceutists to their own profession. We would, by an enforced public inscription in their shops, exactly teach the public, the character of their knowledge and duties; we would have their licenses dependant on the honesty of the possessor's practice; we would enact small penalties, easily and speedily levied, for every open invasion of the doctor's domain, and provide *that* severe punishment (quickly inflicted), for serious ill consequences of malpractice, which would make it the *interest*, of even the unprincipled, not to incur the hazard. This, to the druggists, will appear severe; but it is no less essential to the due honour of their own study, than to the preservation of the just rights of the medical profession—and the safety and well being of society. Pharmacy with all its varied divisions, and exhaustless materials, will task singly the utmost efforts of its ablest and most devoted cultivators, and that government can scarcely lay claim to the merits of paternal economy, or sound policy, which, by its non-interference, encourages its subjects to those divided and distracting labours which makes them *useless* to one highly important profession, and noxious to another. If the claims of pharmacy—so disgracefully low in our otherwise distinguishingly scientific country—be too weak to influence our governors to put a stop to that dishonest intermeddling of druggists with a business to which they are no more akin than the thousand other classes of tradesmen, who aid in keeping the animal economy in a state of comfort or health, let us beg them to remember that the existence of one of the most useful classes of men in the country, our medical practictioners, is more emperilled by the continuance of so gross an abuse than is usually surmised. Our profession opens to the young generation no glittering honours—no very probable chances of large fortunes; it is comparatively costly of entrance: years of peculiar duties and hard and repulsive studies are necessary preliminaries: ceaseless confinement as to time and place—drudging attendances in all weathers, and all seasons of the day and night—limited remuneration—and endangered, and usually shortened, lives; these, the common fate of medical men, are the prospects which (with darker shadows every new day), stand before the youth who thinks of entering our profession.

Need we remind our governors that while the very men we want—men of respectability and cleverness—will be certainly kept out under such a system, we can have no very secure guarantee on the other hand, that a sufficient number of our body of even ordinary qualifications, can be permanently sustained to supply the wants of the public? We are not dependent on speculation in coming to this conclusion. The recent entries at our metropolitan and even provincial schools, speak trumpet-tongued of the diminution of medical candidates, and we venture to tell our Government, that if it does not take some efficient steps, we will not say for the encouragement, but the protection, of our profession—among which we consider, as of the very highest importance, the destruction of that alarmingly increased, and increasing evil—druggists' medical practice—a day may come which will present our present superabundance reversed, and show to us our country—it may be in a period of pestilence—deprived of that boon, which, like so many other blessings, is only properly prized and appreciated in its absence and in the hour of need—an enlightened, a learned, and a benevolent medical profession.

PREPARATION OF ERGOT OF RYE.

To Charles Clay, M.D., Manchester.

Sir,—It was with great pleasure that I read your observations on the ergot of rye, published in Medical Times for Sept. 3d, and in every respect do I agree with you as to the priority the decoction of ergot of rye claims over every other preparation of that drug; but there are to be met with many cases where the secale cornutum is especially indicated and where the delay in its administration occasioned by the necessity for its extemporaneous decoction, would be attended with dangerous and not unfrequently fatal results.

If you could point out any way in which this evil might be obviated, it would doubtless be read with great eagerness and attention by many others as well as your obedient servant,

J. Ridout.

Stratford, Essex. Oct. 10, 1842.

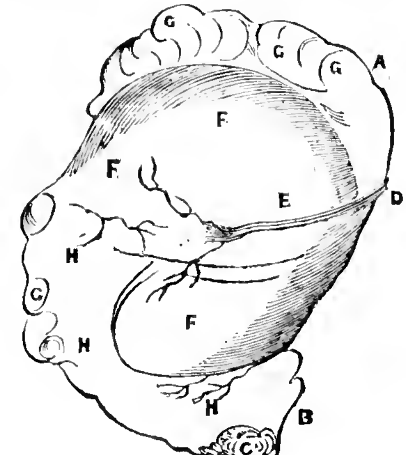
CASES OF PERITONEAL SECTION FOR THE EXTIRPATION OF DISEASED OVARIA BY THE LARGE INCISION FROM STERNUM TO PUDES, SUCCESSFULLY TREATED.

By CHARLES CLAY, Member of the Royal College of Physicians, London; of the College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence, &c. Piccadilly, Manchester.

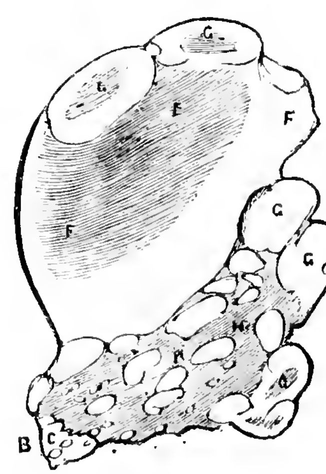
(Continued from page 45.)

DESCRIPTION OF THE TUMOUR.

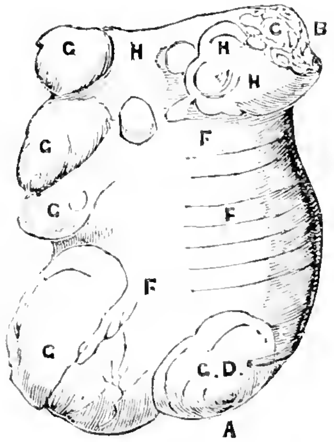
The tumour weighed 17 pounds 5 ounces, apothecaries' weight, and its largest circumference was three feet, eight inches, its shortest circumference two feet, inclined to be oval in its form, *fig.* 1. The part marked A was situ-



ated under the umbilicus, and formed the most prominent part of the abdomen. B was the pelvic mass, of which the part marked C was ulcerated. D. the pedicle, where it was cut. E the fallopian tube, broad ligament, &c., attached to the tumour. F F F the large sac capable of holding about six pints. G G G smaller sacs holding from half an ounce to half a pint each. H H H the solid part of the tumour composed of still smaller cells, filled some with pus, others with a brain-like substance, the interstices being fibrous and cartilaginous, in some parts so hard as to injure the edge of the scalpel. The contents of the large sac were a thick glutinous substance not unlike the albumen of an egg half boiled, but in no part did I observe the coffee-coloured liquid noticed by most writers; the fluid here found coagulated on the application of heat. *On the opposite surface* the smaller sacs, to the number of six or seven in the whole, were more distinct, as in *fig.* 2, marked by the same references as the last diagram.



A view of the tumour in section will show the more solid part of the tumour distinctly from the large sac, *fig.* 3.



Independent of the tumour and its contents, there were about six and a half pints of ascitic fluid in the abdominal cavity. When the inspection of the tumour took place, Drs. Radford, and Black were present. There are many circumstances connected with these particulars, I wish the reader to bear in mind, as they are of great importance in determining on the plan of operation; and by which, I shall endeavour to shew, that under the well known obscurity which exists in the symptoms of all ovarian tumours, the operation by large incision is safer, and better than any other plan.

SUMMARY OF THE FIRST TWENTY-FOUR HOURS AFTER THE OPERATION.

Temperature of the Apartment.—It will be observed that the room was kept as nearly as possible to one temperature; a circumstance of no small importance in the management of so critical and serious a case.

Pulse.—The circulation with those exceptions marked at the 8th and 19½ hour after the operation, was soft and easily compressible; at the two periods alluded to, it was a full, strong, and hard pulse, consequently bleeding was resorted to; at the 8th hour to ℥xiv, when sickness occurred, and again at the 19½ hour to ℥viij, when sickness came on. After the first bleeding the pulse fell to 84 and soft. After the second it rose to 100, but remained soft and feeble, both bleedings exhibited the buffy crust. The blood was taken quickly from a large orifice.

Skin.—After the first six hours had expired, (the skin was generally warm and moist during the six hours alluded to,) the face, hands, and feet, were particularly cold, and moist, like the asphixiated stage of cholera. At the two periods, when the pulse stood at 90, the skin was hot and dry.

OPERATION, 4 O'CLOCK P.M., SEPT. 12, 1842.	½ past 6—2½ hours after operation.	8 p.m.—4 hours after operation.	10 p.m.—6 hours after operation.	12 p.m.—8 hours after operation.	¼ to 4 a.m., Sept. 13th—11¾ hours after operation.	6 a.m.—14 hours after operation.	9 a.m.—17 hours after operation.	½ past 11 a.m.—19½ hours after operation.	1 p.m.—21 hours after operation.	¼ to 4 p.m.—21 hours after operation.
Room Temp.	70	70	70	68	70	68	68	70	68	70
Pulse	80 Soft	88 Full	88 Full	90 Full strong	86 Soft	86 Soft	110 Soft and compress.	90 Full and strong	100 Soft and compress.	98 Very soft
Surface of the Body	Cold Moist	Warmer and more moist	Warm	Warm	Warm and moist	Warm and moist	Warm and moist	Warm	Warm and moist	Warm and moist
Tongue	Natural	Natural	Natural	Clean	Clean	Clean	Moist and clean	Dry and clean	Moist and clean	Moist and clean
Thirst	None	Little	Little	Little	None	Little	Very little	Little	None	None
Flatus	None	None	None	None	None	None	None	None	None	Little
Pain	Violent in the loins	Violent in the loins	Violent in the loins	Trifling	None	None	None	Some in the loins	None	Little
Lightheadedness	None	None	A little	Left her	None	None	None	None	None	None
Cough	None	None	A little	Little	Little	Very little	Very little	Little	Very little	Very little
Shivering	A little	None	None	None	None	None	None	None	None	None
Hæmorrhage	None	None	None	None	None	None	None	None	None	None
Urine.	None	None	None	None	Drawn to ℥vi	None	None	None	None	Drawn to ℥viij
Motions	None	None	None	None	None	None	None	None	None	None
Respiration	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Coldness	Complains of	Left her	None	None	None	None	None	None	None	None
Sleep	None	None	20 minutes	10 min. sound	80 min.	70 min.	20 minutes	None	20 minutes	120 minutes
GENERAL REMARKS.	Face and feet particularly cold—ordered stockings on the arms and legs—gave mur. morphine, gr. ss. in pill—gruel diet—toast water—panada—and softened German rusks.	Ordered the room windows opened—and a cup of tea—former diet.	She felt sleepy, and as the morphine had not produced any sleep gave her m. 30 tinct. hyoscyami—felt a little pain at the ligatures when coughing—diet continued.	As the pulse was 90 full and strong—bled from a large orifice to ℥xvi, when sickness came on—pulse after bleeding, 84, and soft—and a dew of perspiration covered the skin—diet continued.	The urine drawn by the catheter was of a pale sherry colour, natural in smell—diet continued.	Feels a little soreness in the line of the sutures—the blood drawn at 12 o'clock exhibited a buffy crust—when still, perfectly comfortable—diet continued.	Ordered enema, with ol: ricini—and to be repeated two or three times, if necessary—diet continued.	The enemas were not up to this time ejected, they were repeated—bled to ℥viij, when she felt sick—pulse after bleeding, 100, but soft and compressible—perspiration came out over the whole body.	Still no return of enemas—had vomited twice—the blood previously taken shewed a buffy crust—enemas with ol. terebinthinæ and ol: ricini ordered, and to be repeated two or three times—diet continued.	Still no return of enemas—urine natural colour and smell—flatus for the first time—ordered a continuance of enemas—patient expressed herself hungry—diet continued.

Tongue and Thirst. During the first twenty-four hours the tongue kept remarkably clean and moist, with the exceptions as above; when the pulse stood at 90, then the tongue was clean, but dry, accompanied with thirst. I may observe, however, that the thirst was never to any extent throughout the case.

Flatus.—It was truly astonishing how free the bowels were from flatus at the time of the operation, and even for some days after, but particularly during the above tabulated twenty-four hours, which I attribute to the peculiar evacuant power of the inspissated ox gall given before the operation to unload the intestines; the satisfactory effects of which I had very frequently proved, and recorded my experience of it in the MEDICAL TIMES.

Pain.—During the first six hours there was very severe pain in the loins and right iliac region, this was attributed to the stretching of the pedicle, and adhesions of the tumour during the operation, and to the ligatures left on the vessels and pedicle, a circumstance wholly impossible to avoid. After the first bleeding the pain left the parts; a slight recurrence of it came on a little before the second bleeding, after which it was wholly and effectually removed, and has not since returned. In testing the abdominal region for the purpose of discovering any tendency to inflammator

General Remarks.	Vomiting.	Sleep.	Motions.	Urine.	Cough.	Pain.	Flatus.	Thirst.	Tongue.	Surface of the body.	Pulse.	Temperature.	From 24 Hours after the Operation, to the Conclusion of the Fifth Day.
Enemas continued—Gave mur: morphine half a grain.	Three times.	60 min.	None.	None.	Little.	None.	None.	None.	Clean.	Warm and moist.	106 Soft.	70	½ past 7 o'clock p.m. 27½ hours after, Sept. 13.
The morphine not effective, gave her Tinct. Hyoscyam. 50 drops in tea—Clysters not yet returned	Twice.	15 min.	None.	None.	Little.	None.	None.	Trifling.	Clean.	Warm and moist.	90 Soft.	70	12 o'clock, night, 32 hours after.
Patient very cheerful—Vomiting not distressing—Some of the last clyster returned—Urine, natural in colour, and smell—Diet continued.	Thrice.	240 minutes.	Very little.	Drawn ℥vi.	Little.	None.	None.	More.	Dry.	Warm.	90 Fuller.	68	½ past 6 a.m., Sept. 14, 38½ hours after.
Belly slightly tympanitic—Flatus felt for the first time—No more clysters returned—Clysters repeated.	None.	60 minutes.	None.	None.	Little.	None.	Little.	Very little.	Moist, a little scurf.	Warm and moist.	105 Softer.	68	41½ hours after operation.
Still no return of the clysters—Urine natural—Flatus more troublesome—Diet and clysters continued.	Once.	80 minutes.	None.	Drawn ℥v.	Little.	None.	Little	Little.	Rather moist.	Warm and moist.	86 Soft.	70	46½ hours after operation.
Felt a sensation as if a motion would come.	Three times.	30 min.	None.	None.	None.	None.	Little.	Trifling.	Moist.	Warm and moist.	112 Soft.	70	49¼ hours after operation.
Still no motion from the bowels.	None.	90 min.	None.	None.	Little.	None.	Little.	None.	Clean.	Warm and moist.	90 Soft.	68	52 hours after operation.
Clysters were again given, and the abdominal region assisted by a six-tailed bandage—A large mass of clyster and fœcal matter returned.	Once.	100 minutes.	None.	None.	Little.	None.	Little.	Trifling.	Moist.	Warm and moist.	88 Soft.	71	55¼ hours after operation.
A tube introduced into the rectum, an enormous quantity of flatus was discharged—Takes her diet very well.	None.	195 minutes.	None.	Drawn to ℥xii.	Little.	None.	Considerable.	None.	Clean and moist.	Warm and moist.	86 Soft.	70	62 hours after operation.
Feels perfectly free from pain,—only tired of lying on her back, and very hungry.	None.	50 minutes.	None.	None.	Little.	None.	None.	None.	Little furred.	Warm and moist.	86 Soft.	70	65½ hours after operation; ¼ past 9 o'clock, a.m., 15th.
Diet continued.	None.	40 min.	None.	None.	Little.	None.	Very little.	None.	Moist and red tipped.	Warm and moist.	82 Soft.	71	70 hours after operation.
Diet continued.	None.	None.	None.	None.	Little.	None.	Very little	Little.	Furred	Warm and moist.	84 Soft.	70	73½ hours after operation.
Clysters ordered to be continued, with the assistance of the bandages—Fæcal matter brought away—Urine natural—Gave Tinct. Hyoscyam as before.	None	90 minutes.	None.	Drawn to ℥xii.	None.	None.	Very little.	None.	Cleaner and moist.	Warm and Moist.	76 Soft.	70	79 hours after operation.
Diet continued.	None.	135 minutes.	One, natural.	None.	Little.	None.	None.	Little.	Rather dry.	Rather dry.	80 Soft.	70	7 o'clock a.m., Sept. 16, 87 hours after.
Diet continued.	None.	None.	None.	None.	None.	None.	None.	None.	Moist.	Moist and warm.	84 Soft.	70	90 hours after.
Diet continued.	None.	45 min.	None.	None.	None.	None.	Very little.	None.	Clean and moist.	Warm and moist.	86 Soft.	70	96 hours after operation.
Diet continued.	None.	None.	None.	None.	None.	None.	None.	Very little.	Moist and furred.	Warm and moist.	100 Soft.	71	100 hours after operation.
Aphthæ appeared slightly in the mouth—Ordered a linctus, with Borax soda—Repeat enemas—Half-a-grain mur. morphine, and 50 m. Tinct. Hyos. at bed-time.	None.	None.	None.	Drawn to ℥vi.	None.	None.	Little.	None.	Cleaner.	Moist and warm.	86 Soft.	70	104 hours after operation.
Felt very well—Clysters not returned—Complains of hunger—Diet the same.	None.	4½ hours.	None.	None.	None.	None.	None.	None.	Clean and moist	Warm and moist.	80 Soft.	70	Sept. 17th., 7 o'clock a.m., 112 hours after.
Diet and drink as before.	None.	None.	None.	None.	None.	None.	None.	None.	Clean and moist.	Warm and moist.	84 Soft.	70	111½ hours after operation.
First time of passing water naturally—Dressed the wound—Found it healed, except helf-an-inch at the umbilicus, and half-an-inch where the ligature passed outward—Changed her bed and linen—Did not appear fatigued with the exertion.	None.	None.	Three, natural.	Naturally, ℥xvi.	None.	None.	None.	None.	Clean & moist.	Warm & moist	74 Soft.	70	122½ hours after operation.

action, both general pressure, with the hands spread, and particular pressure over various localities with the tips of the fingers, were resorted to, and this is to be considered when speaking of absence or presence of pain in the future statements of the case.

Light-headedness.—Not the slightest disposition to this tendency manifested itself (with the exception of about an hour before the first bleeding, after which it never occurred again.)

Cough.—It will be observed that occasionally a slight cough troubled her; this commenced about six hours after the operation. It appears from inquiries made, she was suffering from a little cold at the time of the operation, but about which she kept silent lest the confession might delay the time of performing it. Although it was but slight, and no bad effects arose from it, yet I must confess had I been aware of it, I should have postponed operating to a more favourable opportunity.

Shivering.—This never occurred but once, and that during the first two hours after operating, and then but slightly.

Hæmorrhage.—This much dreaded item never made its appearance, even in the slightest degree during the whole progress of cure.

Urine.—The bladder being effectually emptied at the time of the operation by natural means, there was no call for the catheter until near twelve hours after the operation, when six ounces were drawn off, of a pale sherry colour, and natural smell. The catheter was again introduced at the expiration of twenty-four hours, when eight ounces were drawn off, of a natural smell and colour..

Motions.—No evacuations from the intestines during the above twenty-four hours took place, although enemas were freely and frequently administered at the early part of the time with oatmeal gruel and olei ricini, and the latter part of the same time with the addition of the olei terebinthinæ. In this, there was nothing very remarkable, as the bowels had been so effectually emptied by the exhibition of twelve grains of the inspissated oxgall before the operation; a preparation in which I have the utmost confidence as an evacuant without creating the least excitement, and which in my opinion is far preferable to doses of drastic purgatives, as recommended by Mr. Lizars, preceding the operation.

Respiration.—This function was never in the least degree interfered with during the progress of the case, the breathing being always perfectly easy.

Coldness.—During the two hours this sensation was felt severely, the face, hands, and feet, had much the same character as asphixiated cholera; at the termination of the second hour it disappeared and never recurred again.

Sleep.—The portion of the twenty-four hours spent in sleep amounted to six hours and ten minutes, and this at ten different sleeps. As there are but seven mentioned in the table, I may observe that the third, fourth, and last items are two sleeps combined together.

Diet.—The diet was of the simplest possible description, every thing in the shape of stimuli carefully and rigidly avoided. Boiled bread, toast water, thin solution of gum arabic, arrow root, gruel made in water, and German rusks, softened in toast water, formed the only diet for the first five or six days; and from that time to the twelfth day only tea, coffee, and a little milk to the water, with which the arrow root was made, were the only things added to the former articles of diet.

Vomiting, I ought to have observed, occurred twice towards the conclusion of the first twenty-four hours; it appeared to arise from the taste of the olei terebinthinæ, which had risen to the mouth from the enemas, but the efforts of vomiting did not in the least distress her, except a little pain like smarting at the stitches close to the umbilicus.

Concluding Remarks.—A progress more satisfactory it was scarcely possible to anticipate, and with rigid attention to the rules prescribed, we had every reason to hope for a favourable termination of the case, and it is but justice to say, the patient exhibited a fortitude during the operation, and a strict determination to obey the injunctions to the very letter, that rendered success still more probable.

From the circumstance of some of the above tabulated items never occurring again during the progress of the case towards complete recovery, I shall omit them in the subsequent tables, such as coldness, disturbed respiration, hæmorrhage, shivering, and light-headedness; should any other item be omitted it will be from the same cause.

The second table continues the case to the conclusion of the fifth day, when the first dressings were removed.

Summary from the conclusion of the first twenty-four hours after operation, to the eve of the fifth day, when the incised wound was dressed for the first time, deduced from the above table.

Temperature of the apartment.—The temperature was still kept up to its usual height, as expressed in the first table.

Pulse.—The circulation though expressed in different numbers, was always soft and compressible, with one exception, when it stood at 90, and fuller, which was soon after followed by copious perspiration, when it immediately became quicker, but very soft.

Skin.—Twice in the above space the skin assumed a dry character; it was however, but temporary, neither time exceeding two hours.

Tongue.—Only became temporarily dry whilst the skin assumed that character.

Thirst.—Though seldom really absent, was never otherwise than trifling.

Flatus.—Was frequently felt, but in a trifling degree; the tube introduced into the rectum effectually emptied the bowels of all gaseous matter, when applied; the flatus had entirely ceased before the conclusion of the above table.

Pain.—During the whole space entirely absent.

Cough.—Was never distressing, disappearing after the fourth day.

Urine.—Had been drawn off by the catheter five times in the space tabulated; the full amount of fluid, fifty-one ounces. At the conclusion of the fifth day, she passed urine naturally for the first time, to the extent of sixteen ounces.

Motions.—The first motion by natural efforts was on the fourth day, and on the eve of the fifth she had three natural evacuations. Previous to the fourth day, the motions procured by clyster were assisted by a double six-tailed bandage imitating abdominal muscular action, a means that I have frequently seen effective in other cases. Where clysters have been obstinately retained, it is necessary to apply the bandage about five minutes after the exhibition of the clyster, and instruct the patient to assist by bearing down a little and holding the breath.

Sleep.—The extent to which she enjoyed refreshing sound sleep in the last four days, was remarkable—not being less than twenty-five hours, which, added to the six hours and ten minutes in the first table, makes a total of thirty-one hours and ten minutes.

Vomiting.—Was never distressing, and finally disappeared on the eve of the second day after the operation.

Wound, Dressing.—On removing the dressings, the wound looked remarkably well, and with the exception of half an inch near the umbilicus, and about the same space near the pubes, where the ligatures of the pedicle and vessels came outward, the whole had adhered: the patient experienced little fatigue from the dressing and changing the bed and linen; it was with difficulty she was restrained from giving a helping hand.

ORFILA'S LECTURES ON ARSENIC.

Containing an Account of the different Operations performed upon the Body of Laffarge.

Collected and Translated by JOHN DAL PIAZ, Pharmacien and Laureate of the School of Paris.

Lecture VIII.

Gentlemen,—I terminated my last lecture in speaking of Monsieur Rassori's ideas with respect to arsenical toxication. Monsieur Rogetta, who adopts the same opinions, has endeavoured to render them popular in France; he considers arsenical intoxication as an asthenia, and proposes, as a curative method, the use of broth and brandy. I established, in my first memoir the advantages derived from bleeding in cases when a powerful reaction occurs. This mode of acting has been strongly criticised by Monsieur Rogetta, who asserts that, by bleeding we increase the effects of the poison, and consequently the life of the patient is sacrificed. Finally, this gentleman wrote to the academy of medicine, requesting they would name a committee to examine these two modes of operating in experimenting upon animals.

This request was also made by myself; in consequence of which a committee, composed of Messrs. Oliviers d'Angers, Amussat, Lecame, Bouillaud and Husson, was named. The experiments were continued during four months, in which time forty dogs were poisoned and submitted to the two modes of treatment: some were bled, while to the others was administered broth and brandy. A certain number of the dogs vomited, and, I must confess, almost all those who were bled died, whilst one-half of those who had taken the tonic mixture (broth and brandy) recovered.

Such were the results presented to the academy by Monsieur Olivier d'Angers who, at the same time, declared the experiments had been badly conducted, and that vomiting ought to have been prevented by tying the œsophagus. This operation had been proposed, but Monsieur Rogetta was opposed to its being practised; nevertheless, the Royal Academy, from these results, encouraged Monsieur Rogetta to continue his experiments. In consequence of these having been badly conducted, I requested they might be repeated in a different manner; it was my opinion that vomiting ought to be prevented, as dogs are not easily poisoned with arsenious acid on account of the facility with which they eject the poison. It is, therefore, indispensable, when such experiments are to be properly conducted, that a ligature be applied to the œsophagus after introducing the poisonous matter. The following results confirm what I have already stated respecting these operations.

1. If arsenious acid is administered to a dog, and the œsophagus is afterwards tied, death is sure to result.

2. If to another dog the œsophagus is tied and no poison has been administered, death will not result; when the ligature is removed, the animal will eat and drink as usual, although the œsophagus had been tied for 24 hours.

It was in consequence of my insisting upon these two facts that the academy appointed another committee which during a great length of time (19 months) did not assemble once, and consequently made no experiments. Nevertheless it was asserted, in a certain public paper, that our mode of treatment hastened death in a striking manner; that the first committee had declared it to be attended with dangerous results, and gave their preference to the treatment by tonics.

Being, however, fully convinced of the superiority of my method, I was induced to try a great number of new experiments from which I conclude: if a dog poisoned with 25 centigrammes of arseni-

ous acid can vomit after a certain quantity of water has been administered, he will recover.

If, on the contrary, after the introduction of that same quantity of arsenious acid, the ligature of the œsophagus is performed, death is sure to result.

I have also repeatedly tried the treatment by tonics, and have found death ensues much sooner, provided the œsophagus is tied. These results induced Monsieur Rogetta to repeat his experiments upon horses, who, as we know, have not the power to vomit.

Only one out of 14 of the horses poisoned, and afterwards treated by tonics, died: several others were bled, and of these only two were cured.—There is nothing very extraordinary in this; I never said that good effects were always produced by bleeding, but I stated it should be resorted to when there are signs of a powerful reaction. It is the intention of the academy to repeat the experiments upon dogs: I am confident if these are properly conducted, the result will prove the truth of what I have before stated, and which I again repeat. If a dog vomits immediately after taking the poison, death will not ensue, and I persist in saying the treatment recommended in my last lecture is the most rational; and that it is indispensable in cases of poisoning by arsenious acid, to evacuate the poison by vomiting. I also again assert that the Italian mode of treatment ought not to be adopted.

In the preceding lecture, I mentioned the property hydrated peroxide of iron possesses to combine with arsenious acid, and I recommended its use in cases of poisoning by this substance; the experiments of Messrs. Lesueur, Sandras, Monat and Deville upon dogs; and those of Monsieur Bouley upon horses, together with the several cures effected upon man, leave no doubt of the efficacy of this chemical agent. An objection to the use of this antidote may be that it sometimes contains a minim portion of arsenious acid. It may be asked whether, in this case, the administering of such an antidote would not severely aggravate the state of the patient? The following experiment is sufficient to prove that such a peroxide of iron may be used with perfect safety.

Four ounces of an arsenical peroxide of iron were administered to a dog, and the œsophagus afterwards tied. From this treatment no poisonous effects resulted. I then destroyed the same dog by hanging him, and although the strictest research was made to detect the poison in the organs, none could be discovered. This may be easily accounted for. We have only to reflect upon the infinitesimal quantity of the poison in combination with four or six ounces of the peroxide. That absorption could not occur is evident from the chemical influence exercised by such a large excess of peroxide of iron, and Berthollet has sufficiently proved the influence of masses, with regard to chemical decomposition, to admit of our assertion respecting arsenical peroxide of iron. It may, however, be easily ascertained by Marsh's apparatus whether the peroxide of iron is arsenical or not.

I shall now discuss another point relating to this subject, and which may at first seem rather complex and difficult. I will suppose an individual to have been poisoned by arsenious acid, and the medical attendant has administered peroxide of iron. Nevertheless, the patient dies a short time after this antidote has been employed, and at the *post mortem* examination the peroxide is found in the digestive tube, consequently, when analyzed with the other matters contained in the stomach, &c., arsenic will be obtained, and the experimenter, who knows perfectly well that the hydrated peroxide of iron may have been arsenical, is greatly embarrassed to discover whether the arsenic proceeds from the peroxide, or from arsenious acid purposely administered. Experience has solved this difficulty. If arsenical peroxide of iron found in the digestive canal does not leave arsenious acid in solution, after having been boiled a long time in distilled water, it may be asserted, if it yields arsenic by other means, that the poison proceeds from the impurity of the peroxide; if, on the contrary, this has combined with arsenious acid already in the stomach, the arsenious acid thus united to the peroxide would have been retained in the boiling distilled water, which, nevertheless could not extract the arsenious acid naturally contained in the peroxide of iron. Again, add the suspected peroxide to a solution of caustic potash; this alkali, although it will not eliminate the poison naturally combined, will certainly extract that which has been recently neutralized by the same peroxide, provided the arsenious acid does not exist in too minute a proportion. The arsenite of potash thus obtained may be immediately detected, either by sulphuretted hydrogen, or by Marsh's apparatus.

Gentlemen, I think I have now refuted all the objections which can possibly be offered in favour of an accused: I should have completed this task of making you acquainted with my medico-legal doctrine, in cases of poisoning by arsenious acid, had I not the desire to inform you of the various operations resorted to in the case of Monsieur Laffarge.

The first medical attendant of Monsieur Laffarge was Dr. Badon: this gentleman did not suspect that poisoning had been effected, and from the nature of the matters ejected, he thought the complaint was a volvulus.

On the 13th of January, 1840, Dr. Lespinasse was called to attend the patient: he expresses himself as follows:—

"Upon my arrival, I found Monsieur Laffarge pale and thin; he complained of constriction in the throat, the bottom of which appeared red and inflamed; he was much exhausted by continual vomiting, and frequent hiccups; all his extremities were cold, the circulation scarcely sensible, and the beatings of the heart quite disorderly; syncopes occurred at intervals, and were followed by continual agitation. From these symptoms," adds Monsieur Lespinasse, "I did not hesitate to think Monsieur Laffarge had been poisoned; I consequently administered peroxide of iron."

Without doubt, this doctor was fully convinced that the symptoms were such as to justify him in making so positive an assertion.

The patient died on the 14th of January; and, upon opening the body, the stomach was found to be inflamed, and to bear several ecchymoses; the duodenum had a real gangrenous stain, and the valves of the heart were more coloured than usual. A medico-legal examination was then ordered by the judiciary authorities, to be made upon a "lait de poule,"* which yielded a very small quantity of arsenic.

Several other liquids were afterwards examined, and those treated with a few drops of a solution of sulphuretted hydrogen, yielded a yellow precipitate of sulphuret of arsenic. The eighth analysis was that of the liquid contained in the stomach, together with a decoction of a portion of this organ: the liquid thus obtained, acidulated with hydrochloric acid, and afterwards submitted to the action of sulphuretted hydrogen, afforded a yellow precipitate of sulphuret of arsenic. Metallic arsenic was not obtained, in consequence of an accident which occurred during the analysis of the sulphuret from which it was to have been eliminated; the tube, in which was contained this compound, mixed with charcoal and carbonate of potash, burst,—the extremity having been, by inadvertance, hermetically sealed.

Nevertheless, the experimenters concluded to the presence of poison, although they had not obtained it in the metallic state. I have already said this conclusion ought not to have been offered before they had obtained the metal.

Other experimenters analyzed the fourth part of the stomach, which had been preserved in alcohol: this was carbonized by nitric acid, but the charcoal thus obtained offered no positive results. Another portion of the stomach was boiled in distilled water, and the filtred decoction submitted to the action of various tests, such as nitrate of silver, sulphuretted hydrogen, &c. &c., produced no positive results. Then the matters contained in the stomach were submitted to the action of Marsh's apparatus without effect.

In consequence of these operations being attended with negative results, the body was ordered to be exhumed, that other experiments might be performed upon the liver, the heart, and a portion of the intestines. These were carbonized, and a filtred decoction of the charcoal obtained was submitted to the action of Marsh's apparatus: in this case, again, the presence of arsenic was not detected. Nevertheless, Dr. Lespinasse was still convinced, from the symptoms observed upon Monsieur Laffarge during life, and from the lesions observed at the *post-mortem* examination, that poison had been administered; he assures, us the jet of inflamed gas was nearly two inches long, and we know that under this condition metallic arsenic cannot be condensed upon the capsule: however, he also says, he obtained two arsenical stains, towards the end of the experiment.

The judiciary authorities having decided upon further investigations, Messrs. Olivier d'Angers, Bussy, and myself, were requested to undertake them.

We commenced by carbonizing with nitric acid the part of the stomach remaining, the matter ejected, and the liquids found in the digestive tube: the charcoal we thus obtained was boiled in distilled water, and the filtered decoction introduced into Marsh's apparatus. From this experiment we obtained a small quantity of metallic arsenic.

A second experiment was then made upon the mass of matters labelled, "Matters from the organs of the thorax, the abdomen, the liver, the heart, and the brain." Two distinct operations were performed upon this mass. We boiled the whole in distilled water during four or five hours, and strained the decoction through a cloth; this decoction was then evaporated nearly to dryness, and the residue, having been carbonized by nitric acid, produced a charcoal, which yielded about the same quantity of metallic arsenic as we obtained in our first experiment.

We next examined the solid matter separated from the decoction, and which had been carefully laid aside. This we incinerated by nitrate of potash; had we in this case used nitric acid we should have obtained a bituminous charcoal, the inconvenience of which I have before stated. The solid matter was burning during seven hours before the whole was perfectly incinerated; we then operated upon one-half of the residue, in the manner already described in a former lecture, and from this we obtained twelve times as much arsenic as in each of the former experiments. This result was so satisfactory that we did not consider it necessary to operate upon the remaining part.

A piece of flesh cut from the thigh of the corpse was afterwards examined; it was incinerated by nitrate of potash as in the preceding experiment; in this case no indication of arsenic was observed, although the flesh weighed two pounds.

A portion of the shroud in which the body was enveloped was also examined; it was boiled in distilled water, containing pure caustic potash; the liquid thus obtained yielded no signs of arsenic.

Our next examinations were upon two of the samples of earth collected; one of which was taken from under the coffin, and the other from above. These were boiled separately in distilled water during four hours; the filtered liquids, when submitted to Marsh's apparatus gave negative results.

From the preceding experiments we were enabled to conclude:

1. That arsenic existed in the remaining fourth part of the stomach, in the liquids contained in the viscera, and in the matters ejected.

2. That it also existed in the decoction made from various organs, but that the poison was most abundant in the solid matters remaining after the liquid had been separated.

3. In no other part could arsenic be detected. I may now mention, as a proof that the arsenic thus obtained did not exist in the re-agents employed, that they were the same employed by the chemists of Tulle, with the exception of the nitre. These gentlemen, we know, were of opinion that arsenic did not result from their experiments; consequently, the re-agents must have been pure. I may further observe, that previous to the introduction of the suspected liquids, Marsh's apparatus

* A popular remedy, made by dissolving the yolk of an egg in eight ounces of boiling water, then adding sugar and orange-flower water q. s.

had been in action during twenty minutes without giving the slightest indication of arsenic. The nitric acid we made use of, had been distilled upon nitrate of silver, and we know that, when thus prepared, it cannot contain arsenic. That the poison did not proceed from the soil was also quite certain, for the coffin was not all injured; it only offered a slight crevice in the inferior part: moreover the earth, when analysed, was found to be quite free from arsenic.

Gentlemen, I shall terminate all I have to say upon arsenious acid, by resuming in a few words the methods of analysis, and the mode of treatment adopted by myself.

Methods of Analysis resumed.—1st Problem.—1. Collect the grains of arsenious acid existing in the ejected matter, or deposited upon the internal parts of the digestive canal and ascertain their character.

2. Boil separately, in distilled water, for four or five hours, the matter ejected and that contained in the digestive tube; taking care at the same time to well wash the digestive tube itself. Separate the insoluble matter by filtration, and evaporate the liquids to about one-fourth of their volume; then add a sufficient quantity of pure boiling alcohol, and filter again; acidulate the filtered alcoholic liquids with hydrochloric acid and add sulphuretted hydrogen; collect the arsenical sulphuret thus formed, and submit it to further examination.

Carbonize, with nitric acid, the solid matters remaining on the filters, and submit the decoction of the charcoal to the action of Marsh's apparatus.

3. If neither of these operations have afforded arsenic, the stomach and intestines must be examined by boiling them for six hours in distilled water; the filtered decoction must then be evaporated and treated by alcohol and sulphuretted hydrogen, as before. If no arsenic is detected in this case, the stomach and intestines must be carbonized by nitric acid, and the residue examined.

Second Problem.—Carbonize with nitric acid, one half of the dried liver, and boil the charcoal produced for half an hour in distilled water; then test the filtered decoction in Marsh's apparatus. If from this operation a sufficient quantity of arsenic is obtained to remove all doubts respecting the presence of this poison, further proceedings are unnecessary.

If the result is again negative or not sufficiently satisfactory, boil the remaining portion of the liver for six hours in distilled water with the spleen, the lungs and the heart, and operate upon the decoction as before. If no arsenic is obtained, carbonise the insoluble parts of these viscera, by nitric acid.

In all cases when fatty matters are to be carbonized, nitrate of potash should be used, as in such cases nitric acid would produce a bituminous charcoal attended with great inconvenience.

Orfila's Mode of Treatment resumed.—First stage: Administer one ounce of dried hydrated peroxide of iron well triturated with five or six ounces of tepid water; if after a short time the patient vomits a part, or the whole of the antidote, a similar dose must be again administered; should vomiting not occur, it must be promoted by giving two grains of tartar emetic in five or six ounces of tepid water.

Second stage: Promote purging by administering two ounces of castor oil, and repeated "lavements;" especially, if vomiting does not occur very soon: at the same time repeat the dose of peroxide of iron.

It is quite an erroneous idea to suppose the administration of tartar emetic is attended with bad effects; the irritation produced by the evacuations is too slight to prevent the use of this valuable remedy in such cases.

Third stage: After abundant purging and vomiting, it is necessary to have recourse to diuretics for the purpose of expelling, with the urine, the greater part of the arsenious acid absorbed. The diuretic I recommend is a solution of five drachms of nitrate of potash in 8 ounces of white wine, and and twenty ounces of eau de seltz. If from this period symptoms of reaction occur, attended with fever, bleeding should be effected either by the lancet or leeches; but bleeding should never be effected in the first periods, for fear of promoting the absorption of the poison.

MESMERISM.

To the Editor of the 'Medical Times.'

Sir,—As in spite of contemporary denunciation you have from time to time given place in your valuable journal to various cases of mesmerism, detailed by Dr. Elliotson, Mr. Atkinson, and others; perhaps you will make room for the following paragraph, from the *Jamaica Despach* of the 20th August:—

"A mesmeric experiment was made at the private residence of a gentleman of this city on Thursday last, at which several physicians and gentlemen of high respectability were present, and which, we are informed by a gentleman who witnessed it, was in every respect successful. The patient, a lady, was put into the magnetic sleep by Professor Garrison; and while in this state, the painful surgical operation of removing a large excrescence from the upper eye-lid, or brow, was performed by Dr. Arnold, assisted by two other physicians, without the movement of a muscle on the part of the patient, or the least sign of pain. The patient had long desired the operation to be performed, but had not possessed the fortitude to submit to it, and she was in utter ignorance of the design of the physicians to remove the excresence on this occasion, and knew nothing of it until the whole had been done and the wound dressed, and she had been awakened from her sleep; indeed, we are told, that while the wound was being dressed Professor Garrison *willed* her to sing a favourite air, which she immediately did."

From the high moral and intellectual character of the editor of that paper, you may place implicit reliance on the statement, though I very much regret that one or two of the names of "gentlemen of high respectability," together with those of "the several physicians," who are said to have been present, have not been given. It is possible that this report may have appeared in other Kingston papers, particularly in that very talented journal, the *Royal Gazette and Jamaica Standard.* But, as I do not see the Jamaica papers regularly now, I am unable to send you any other account of the operation than that contained in the paragraph above. Had the names either of Drs. Fergusson, or Magrath, or Spalding, or Chamberlayne, or Garicia, or Morales, or Adolphus, and last, not least, of the very learned, experienced and estimable Bancroft, the present Inspector General of Hospitals in Jamaica, been appended, such a proceeding would have stamped a medical authority upon the case, which I am content to take *only* on the authority of the editor of the *Jamaica Despatch;* "Professor" Garrison being unknown, and the operator *known* to me.

I am, Sir,
Your obedient Servant,
E. BINNS, M.D.

Montague-street, Portman-square.
11th Oct. 1842.

Remarkable Case of Ascites.—A woman, aged 36, was attacked in 1823, by a chronic entero mesenteritis, accompanied by marasmus, suppression of urine, and irregular menstruation. By degrees the abdomen became of enormous size, from the presence of fluid accumulated in the cavity of the peritoneum. The first tapping gave issue to twenty pounds of a lemon-coloured limpid fluid; and M. Lecanus ascertained, after the sinking of the abdomen, that it contained enormous indurations. Ten days afterwards she was again tapped, and so rapidly did the fluid accumulate, that it was necessary to repeat the operation every six, eight, ten, or at the utmost twelve days. Fifteen years had elapsed in this manner, and tapping had been performed 810 times, when Dr. Lecanus thought of trying compression on the abdomen with pieces of paste-board covered with linen. This remedy, employed gradually, at first retarded the accumulation of the fluid; and at the end of six months, during which time tapping was practised at more or less distant intervals, it was perceived that the ascites no longer returned. The patient has now been completely cured these two years, having undergone tapping 866 times during 15 ar 16 years. Once only the epigastric artery was opened; but the hæmorrhage was promptly stopped by tents steeped in a styptic liquid, and introduced into the wound made by the trocar.

Diseases that never Co-Exist.—The typhus abdominalis (that is, with formation of of the characteristic typhous matter, is excluded by the various forms of puerperal fever. In two hundred dissections of puerperal fever he did not find one complication of the typhous process. This immunity from typhus is given by the pregnant, child-bed, and even, though in a less degree, by suckling.—Typhus and cholera, and typhus and dysentery, are said to have the power of mutual exclusion; and the co-existence of tuberculous disease and typhus is extremely rare. Carcinoma and tuberculosis (i.e., tuberculous disease) are antagonist diseases; and the latter, and all kinds of serous cysts, are never met with simultaneously in the same organ, or even in the same person. Tubercular disease affords an immunity from cholera, dysentery, hypertrophy of the heart, curvature of the spine, dilated bronchia, and almost all chronic diseases of the stomach. Tuberculosis and aneurism do not co-exist, and Rokitansky, as well as others, has remarked, that the development of tubercle is arrested, although the disease is not subdued, by the pregnant state, as likewise by all large tumours of the abdomen. These conclusions are derived by Professor Rokitansky from numerous *post-mortem* and other examinations.

Schirrus of the Uterus cured by the External and Internal Exhibition of Iodine.—By Dr. Zimmermann.—A lady, aged 45 years, was affected about a year ago, with a schirrous induration of the cervix uteri, to which was added a hectic fever. Dr. Zimmerman, who was called in to attend her, prescribed for her the following mixture:—℞ Iodide of potassium, 1.0 grammes; Iodine, 0.4 grammes; Distilled water, 30.0 grammes; M. and dissolve. She commenced by taking eight drops, three times a day; then the dose was gradually increased, and with great caution, until it amounted to fifteen or eighteen drops. At the same time, the physician ordered the topical employment of the following ointment:—℞ Lard, 30 grammes; Iodide of potassium, 2 grammes; Volatile oil of rosemary, 6 drops; M. S. A. This ointment was applied three times a day; sometimes to the perineum, sometimes to the inguinal regions, and sometimes, but with the greatest circumspection, to the schirrous part of the cervix uteri; in the latter case, a little while after the application had been made, mucilaginous narcotic injections were made into the vagina. After four months of this treatment, sustained without any interruption, the patient was completely cured.

Powder of Camphor and Antimony.
℞ Powdered camphor, 2 grammes; Powdered ipecacuanha, 65 centigrms; Golden sulphur of antimony, 65 centigrms; White sugar, 24 grammes; M and F. S. A. a perfectly homogeneous powder; divide into 12 doses. This formula is due to Dr. Mursinna; it is employed with marked advantage in cases of asthenic pneumonia, in chronic pulmonary catarrhal affections, when the *bronchi* are choked with

a large quantity of thick and viscid mucus, the expectoration of which is very difficult. One dose is taken every two hours, either by mixing it with a small quantity of an appropriate liquid, or by enclosing it in a piece of unleavened bread, slightly moistened with water.

PHLORIDZINE, A NEW MEDICINE.—Phloridzine is a new medicine, which is now very highly spoken of by French practitioners, as a useful adjunct to cinchona preparations, and has been used for some years in Germany, Poland, and France. It is extracted from the bark of the roots of the apple and wild cherry trees, and is thus prepared:—The bark of the recent roots is boiled with water sufficient to cover them, for half an hour. This is poured off, and the same quantity is again used; these two fluids are mixed together, and at the end of 6 hours they deposit the phloridzine, in the form of a deep red velvety-looking matter. M. Lebaudy, editor of the *Journal de Connaissances Medico-Chirurgicales*, says, "Its efficiency is so decided, that we cannot hesitate to class it with the most powerful febrifuges; and it has this advantage over quinine, that it never induces gastralgia."

PRESERVATION OF NITRATE OF SILVER.—Coat the caustic with engraver's sealing-wax, which contains a large quantity of shellac. This wax adheres well, and forms a strong and smooth varnish, as it were, which remains unaffected by the atmosphere. Thus protected the nitrate no longer stains the fingers, injures the caustic case, nor is in any way changed by the moisture in the air; it possesses a greater degree of solidity, and at the same time the process is of exceeding service in practice, inasmuch as when wanted for use, a small part only of the caustic need be uncovered by means of a penknife, so that its application can be restricted to the part where it is required. This is of peculiar utility in ulceration of the throat, aphthæ, fissures, &c.

KING'S COLLEGE MEDICAL AND SCIENTIFIC SOCIETY.—This Society resumed its weekly meetings, on Thursday evening, Oct. 13th, at 6 o'clock, Dr. Budd in the chair.

ADVERTISEMENTS.

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SUMMARY.

CASES OF PERITONEAL SECTION

FOR THE

EXTIRPATION OF DISEASED OVARIA BY THE LARGE INCISION FROM STERNUM TO PUBES, SUCCESSFULLY TREATED.

By CHARLES CLAY, Member of the Royal College of Physicians, London, of the College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence, &c. Piccadilly, Manchester.

(Continued from page 62.)

Observations.—The rapid and satisfactory progress of the case hitherto, more than realized my most sanguine expectations, still, I was aware, even in this advanced stage of the case, that the slightest carelessness might lead to a serious, if not fatal, termination; the rules prescribed therefore, were not in the least abated either to the patient or attendants. I continued to see her frequently in the course of the day up to the fourteenth after operation. In giving the last table of symptoms and attendance, I shall not record every visit, but the result of every day in each column. The items respecting the *thermometer*, pain, vomiting, cough, and flatus, will be omitted, the first (though still used) was not imperatively necessary, and the other four had entirely ceased troubling the case.

General Remarks.	Sleep	Motions	Urine	Thirst	Tongue	Surface	Pulse	
Former diet continued rigidly—Gave half a grain muriate morphine at bed-time.	7½ hours.	Two.	℥iij.	Little.	Clean.	Moist and warm	90.95.86. Soft.	Sept. 18, 5 P.M.
Complains of hunger—Allowed coffee for the first time, as a change, with former diet.	2½ hours.	One.	℥ix.	Very little.	Clean.	Moist and warm	86.86.84.	Sept. 19, 5 P.M. [illegible]
Much refreshed by sleep—Wants more tasty things to eat—same diet rigidly enforced.	10 hours.	One.	℥iij. ℥viij. ℥viij.	None.	Clean.	Moist and warm.	80.80.78.75.	Sept. 20, 5 P.M.
Dressed the wound, which looked very healthy—removed four of the stitches—the ligatures tried, but firm	5 hours.	None.	℥ij. ℥ii. ℥vi.	None.	Clean.	Moist and warm	76.76.75.	Sept. 21, 5 P.M.
She feels so well, that it is with difficulty she is kept to her usual diet—promised a change to-morrow.	7 hours.	None.	℥viij. ℥viij. ℥vi.	None.	Clean.	Moist and warm	70.70.74.	Sept. 22, 5 P.M.
Dressed the wound—all the stitches removed—ligatures not yet come away—ordered Ol. Ric. ℥ss., which operated very soon—ordered a mutton-chop, with bread, twice in the day.	7½ hours.	Three.	℥vii. ℥vi.	None.	Clean.	Moist and warm	76.78.	Sept. 23, 5 P.M.
Complained of the chop being a small one—Felt very well—sleeps sound—ordered half-sitting posture, occasionally, for change.	5½ hours.	One.	℥vi ℥vi	None.	Clean.	Moist and warm.	76.78.	Sept. 24, 5 P.M.
Feels better in health than she has done for two years—sallowness left her countenance—dressed the wound—ligature still retained—animal-food twice in the day.	All night.	None.	℥iij.	None.	Clean.	Moist and warm.	78.78.	Sept. 25, 5 P.M.
No restriction as to diet—sits up in bed.	All night.	One.	℥xii.	None.	Clean.	Moist and warm.	70.75.	Sept. 26, 5 P.M.
Continues well—greater part of the dressings dispensed with—one ligature yet to come away.	7 hours.	One.	℥xvi.	None.	Clean.	Moist and warm.	74.76.	Sept. 27, 5 P.M.
Got up, and remained up several hours—improves in strength daily.	All night.	None.	℥vij.	None.	Clean.	Moist and warm.	75.76.	Sept. 28, 5 P.M.
Sat up all day—wound required but little dressing.	All night.	None.	℥xvi.	None.	Clean.	Moist and warm.	70.72.	Sept. 29, 5 P.M.
Joined the family down stairs to-day—may be considered well.	All night.	None.	℥xvi.	None.	Clean.	Moist and warm.	70.72.	Sept. 30, 5 P.M.
Continues well—dressings almost dispensed with.	Nearly all night.	Two.	℥xx.	None.	Clean.	Moist and warm.	70.76.	Oct. 1st, 5 P.M.
Continues well—appetite good—takes a little exercise.	All night.	One.	℥xviii.	None.	Clean.	Warm and moist.	70.71.	Oct. 2nd, 5 P.M.
My patient now having resumed her household duties, and being quite well, any further notice of the case is unnecessary, although I visited her occasionally.	All night.	One.	℥xx.	None.	Natural.	Natural.	70.70.	Oct. 3rd, 5 P.M.

GENERAL OBSERVATIONS.

Thus terminated successfully, not only this formidable operation, but its subsequent treatment; a more satisfactory issue could not have been anticipated by any person who witnessed it; the simplicity of the treatment throughout was remarkable: procuring evacuations of fæces and urine, when it was thought the parts were overloaded; and a few hours sleep occasionally, when the case appeared to require it, were the only means put in practice; as little medicine as possible was exhibited for evacuations from the bowels; clysters were preferred to any purgative, and emptying the bladder, until natural efforts were able to accomplish the same. In procuring sleep, common opiates were avoided, in consequence of their tendency to constipation. The tinct hyosey., and the mur. morphine, given in combination had the best effect, but even those were given as seldom as possible. I am of opinion that nature is capable of effecting much more than she obtains credit for; and the less we interfere with her the better. I am the more convinced of this, by the plans of treatment adopted by others, particularly in the minor operation (as proposed by Mr. Jeffreson) in the case treated by Mr. Phillips reported in the "Medical Gazette," vol. 1, 1840-1, page 83, and which, in my opinion, was far too complicated. It will also be observed that I did not exhibit a brisk cathartic before the operation, as recommended by Mr. Lizars. I dissented from this plan, simply because I considered the operation of cathartics as producing a degree of irritation which I felt wishful to avoid: I therefore substituted the inspissated ox-gall, which extensive experience has pointed out to me as an excellent solvent of the fæcal matter of the intestinal canal; and by the solution, its propulsion is facilitated without producing the slightest irritation. This remedy appears also to have a peculiar effect of ridding the intestines of flatus, a matter of great consequence in such an operation, and it was in this case, remarked by many medical gentlemen present, how void of flatus the intestines were; by which the operation was very much facilitated. In applying more interrupted sutures than Mr. Lizars, I merely adopted a hint thrown out by that excellent operator, that it was better to have plenty than too few; which, with the precaution of marking the parietes, as before stated, rendered eversion of any part of the incised wound impossible. Why the incision should not pass directly through the umbilicus may be asked with propriety? My own opinion is, and probably it was the opinion of Mr. Lizars, that the wound would be less inclined to heal (if through the umbilicus); in the case just related the last part to heal, with the exception of where the ligatures passed outwards, was in the vicinity of the umbilicus. In all operations of this kind however, I should keep strictly to the linea alba except at the umbilicus, which I would leave to the right or left about half-an-inch, coming to the linea alba again as soon as possible. So long as the dressings continue in good condition, there ought to be no hurry in removing them. In this case, the fifth day had concluded before the first dressings were taken off and then with great caution, lest the patient might take cold; it is therefore necessary the temperature of the room should be attended to, at the time, as well as in subsequent dressings, as there is considerable exposure. On examining the tumour after its extirpation, the portion lying in the pelvic cavity was in a state of ulceration, it was therefore fortunate the operation took place, had it been delayed the result might not have been so satisfactory, and as the weather began to be cold about the 21st of September, an artificial temperature must have been substituted, which might not have been so easily manageable, particularly as the operation was performed in a small cottage room, where the least inattention might produce a great alteration in the temperature. On the morning of the third day after the operation, flatus became troublesome for the first time, which was effectually removed by the introduction of an elastic gum tube a few inches up the rectum; a plan I should earnestly recommend as effectual without producing any irritation. In expelling the flatus, as well as the clysters, considerable assistance was given by a sixtailed bandage crossed over the abdomen, imitating the action of the abdominal muscles. The most rigid principles were adopted as to diet, and on this, I consider, much of the credit of the cure depended. I was of opinion that in such cases the principle of stimulants, whether as medicine or diet was injurious; I therefore adopted the simplest matters for food and drink I could think of. Boiled bread, bread out of toast water, toast water, gum mucilage, thin arrow root, gruel, and German rusks softened in toast water were rigidly enforced for the first six days, and up to the twelfth day, only boiled rice, a little milk added to the arrow root, and a little weak tea were added; so that my patient complained more of being starved than otherwise. When I look back at the many circumstances which might be deemed unfavourable to the case here recorded, I am the more convinced of the propriety of this operation in preference to the minor one proposed by Mr. Jeffreson. My patient was old, the period of cessation of menstrual discharge, with its many bad consequences (though it had not taken place) might reasonably be expected to interfere with the cure; adhesions existed; the tumour was large, the pressure had produced ascites, ulceration had commenced in the pelvic mass; there was one large cyst combined with six or seven smaller ones; the cysts were also combined with nearly seven pounds of a consolidated mass of cartilaginous and fibrous texture; and lastly, my patient was worn down by long disease, emaciated, and distressed in spirit, before relief was proposed by an operation. In these symptoms there are some points so decidedly opposed to the mode of operation as proposed by Mr. Jeaffreson, that I cannot avoid drawing a comparison. If it were positively certain, that the ovarian tumour was composed of only one, two, or even three cysts, provided they could be defined, and punctured, if it were equally certain that no adhesions existed beyond the pedicle, and if we could be assured no part of the tumour was consolidated, then I should say that the minor operation of Mr. Jeaffreson would be the only justifiable one, but if any one of these objections exist, I am decidedly of opinion that we had better let the patient alone. The fatality shewn by the results of those operations in almost every person's hands, with the exception of Mr. Jeaffreson, and once by Mr. King, fully justify the remarks I have just made upon it. It would be difficult to puncture more than one cyst, it would be impossible to draw the cyst through a small opening if adhesions existed, without doing irreparable mischief; it would be equally impossible to extract, through a small opening unpunctured smaller cysts, or a portion of consolidated tumour. The question then is, are these objectionable points frequent? Mr. Phillips says, "That more than one cyst may exist in the same tumour at the same cannot be denied; but although it may be it is rarely the case." I am afraid this conclusion has been drawn too hastily; the number of cases of punctured ovarian cysts, is too few to warrant to general a conclusion: the case I have here reported is contradictory to this view. Two of the cases of Mr. Lizars had more than one cyst, and from specimens of post-mortem extraction of diseased ovaria, I believe, the fact of more cysts than one in the same tumour, to be more common than Mr. Phillips supposes. I think he would have been more correct in stating, that generally there is one very large cyst, and more or less smaller ones. Again Mr. Phillips observes, "*The coexistence of a solid tumour and a large cyst, I do not deny that it may happen, but I do maintain it to be a rare exception.*" In my case the solid part of the tumour was equal in weight to the saculated part with its contents. I have a post-mortem specimen where the solid part is equal to the sac. Some of Dr. Macdowal's cases of Kentucky, as well as Mr. Lizar's I believe possessed similar features. Lastly, Mr. Phillips asserts, "*That adhesions are frequent.*" On the contrary, Dr. Seymour in his excellent work states, that adhesions exist in ninety-nine cases out of the hundred; both assertions, perhaps, are too much in the extreme; but one more moderate might have been made *that adhesions very commonly exist*; I have never yet seen a case entirely free from them. Now let the reader suppose a case of more sacs or cysts than one or two, or of one with a large consolidated mass with or without cyst, or one with adhesions, though not extensive and then let him imagine himself employed in bringing this tumified mass away by dragging it through a small opening of one and a half or two inches. I certainly should not envy his position, the tearing asunder these adhesions, the difficulty of puncturing a number of cysts, the tearing and enlarging the outward incision by the force required, and lastly, the impossibility of bringing such a mass through so small a space; all of these, or any one of them existing, or the bare possibility that such might exist, is sufficient to condemn the mode of extraction by small incision; and how are we to know that these do not exist? Every person who has paid attention to the subject, knows how very obscure the symptoms of ovarian disease often are, and how very difficult it is to form a correct diagnosis as to the particular state of the tumour; adhesions have been found where none were anticipated, and they have been absent when confidently expected. It is often difficult to say to which side the pedicle is attached, equally difficult to say if the tumour contains one or more cysts, and impossible to tell if any part of the tumour be consolidated or not. By the large incision, whatever difficulty presents itself, we are prepared for it: it matters not which side the pedicle may be, there is plenty of room for cutting asunder the adhesions, however numerous, the whole mass may be removed entire without puncturing the cysts, thus avoiding the disagreeable circumstance of the fluid of the cyst escaping into the abdominal cavity; perhaps, one great cause of death in the minor operation and lastly, we have now abundant proof that peritoneal inflammation is not a whit more excited by a bold opening, than by a smaller one. It must also be borne in mind that the tearing away of the adhesions, *unless very recent ones*, is entirely avoided by the operation of the large incision.

The principal opposition to the large incision, as practiced by myself, Mr. Lizars, and Dr. Macdowal, consists of prejudice, and too much dread in making openings into the abdominal cavity; but time and a few more successful cases will soon overcome both the prejudice and reluctance of surgeons on this subject, and

if I am not mistaken, a new era is opening upon us, as to operations on the abdominal and pelvic viscera. One thing is certain, we can make an opening of any extent, and explore the viscera without any more danger of inflammation than *might follow* the most trifling puncture of the peritoneum. For myself, I feel I should be justified in making extensive incisions into the abdominal cavity, for other objects than the one here related. I would ask what should prevent the spleen from being extirpated when diseased? Or fatty tumours of the omentum? Or tumours of the fundus uteri? In fact, what has been done, is enough to enable me to declare the large incision operation for extirpating the diseased ovaria, *a perfectly legitimate operation*; more successful than the one proposed as its substitute, and, that ere long, operations will be performed on the abdominal regions, hitherto unknown in operative surgery, and with safer results than heretofore. The celebrated Lizars says, "*On considering the nature of serous membranes, it appears, they are less prone to inflammation than cellular tissues which are more confined, or shut up. The exhalation, which is perpetually going on, seems to moderate action, which is strikingly illustrated by dropsy of the tunica vaginalis testis, where the greatest difficulty is experienced by the surgeon in producing inflammation sufficient for adhesion.*"

After operations of this nature, the danger is in the first twenty-four hours; first from haemorrhage from the secured vessels, and secondly, from peritoneal inflammation, which can easily be checked if bleeding be timely resorted to; *but if neglected*, death is almost certain. In my case, the pedicle was rather thick, and the only drawback attending this, is, that the ligature may not be sufficient to stop the bleeding of the vessels contained in it, for supplying the tumour, and thereby requiring ligatures on the vessels themselves. Dr. E. T. Seymour in his excellent work on the diseases of Ovaria, makes the following observations:—

"These considerations have led to the recommendation of a similar operation, when the disease of the organ has attained a size which leaves little other hope of relief by human art. It has recently been successfully performed several times on the Continent, and in our own country, by Mr. Lizars of Edinburgh. Nevertheless, the arguments against such an operation are numerous and strong; and the probabilities of success are very small. If the tumour be not large, and the woman's health unbroken, she may live many years, as long as is allotted to humanity in the enjoyment of a tolerable existence. If the health be much broken the cure of so large a wound in a weakened constitution would be difficult, if not in the great majority of cases, impossible. If connected with schirrus in other parts of the body, it is inadmissible; and if the growth itself be of the nature of fungus haematodes, all experience tells us that should the operation be survived, or the wound heal, the disease will recur in other vital organs of the body. Nor do the difficulties rest here, when these growths enlarge to a great size, they most frequently adhere, and here the operation is out of the question. If all these exceptions then, are estimated, the case which remains in which such a risk is advisable, and such an operation feasible with any fair chance of a happy result, is rare indeed. Still the meed of praise cannot be withheld from those men who have dared, and been successful."

In respect to the above observations, I need only observe, the operations already performed, their uniform success (I mean by large incision) shew the arguments against it are neither numerous, nor strong. In my case the tumour was large, the health broken, and yet the cure of the wound was not difficult; in my case, adhesions existed, yet the patient did well. I cannot but refer particularly to the opinion of Dr. Seymour, in respect to the prospect of a "female enjoying a tolerable existence with unbroken health, and living an average life with a tumour of even moderate dimensions," in which I cannot entirely agree with him. In a great majority of cases, even when the tumour is small, the hopeless advice they have been in the habit hitherto of obtaining from medical men has rendered their lives often truly miserable, and in all cases far from being enviable. There are some cases recorded of simple tapping in ovarian dropsies, without attempting the removal of the cysts; some of these are remarkable for the quantity of fluid evacuated; one is mentioned by S. S. Brame, (see the first number of vol. vii. 'Medical Times,') in which was removed, at ten operations, the enormous quantity of 73 gallons and 5 pints of fluid. I am inclined to believe that there has not been sufficient distinction in many of these cases, as to whether these great quantities of fluid are really obtained from cysts, or from the abdominal cavity itself, in the character of ascites produced by the pressure of the tumour interrupting the proper functions of the abdominal and pelvic viscera. I do not say Mr. Brame's case was the true ascitic fluid, but I suspect many cases are recorded where the fluid is stated as from an ovarian cyst, which is really taken from the abdominal cavity, independent of the sac of an ovarian tumour. There is a material difference between ovarian disease accompanied *with ascites*, and dropsy confined *particularly to the sac of an ovarian tumour*. If the case be ascites, with or without ovarian disease, tapping is highly proper; but it is more questionable if tapping should be so *generally resorted to* in ovarian encysted dropsy, simply because it is only a very temporary relief, as long as the sac is still retained, and adhesions are more likely to occur where the tapping is effected from time to time, rendering operations for extirpation, *by any mode*, more serious and difficult. Whilst I was recording these remarks, a person applied to me with the abdomen distended with ascitic fluid; the whole features of the case and the history of it, presented the character of ascites. I tapped her to the amount of twenty-nine pounds and a half of fluid, having the true ascitic character. When the whole was evacuated, I found a tumour on the left iliac region, about four pounds weight. I do not consider this case as ovarian dropsy, or that the water discharged was taken from an ovarian cyst, but that it was a case of ovarian disease, accompanied with ascites; the latter produced by the interference of the tumour with the visceral functions. In the case of Mrs. Wheeler, (here detailed at length) between six and seven pounds of ascitic fluid presented itself from the same cause, but which had no connection with the ovarian mass of cysts, as the whole of them were afterwards *removed entire*. In respect to the connection of ascites with ovarian disease, Mr. Lizars remarks, "Again, diseased ovarium is frequently accompanied with ascites; so that in our treatment, when we are aware that there is ascites, and suspect a diseased ovarium, *we should first perform paracentesis abdominis.*" I am inclined however, to differ in opinion with this celebrated surgeon, believing that peritoneal inflammation would be more likely to occur from the operation by incison and consequent exposure of the viscera, *if paracentesis abdominis had been previously performed*, because some excitement of inflammatory action would have occurred in healing the tapping wound; which, though it might be slight, still, might the more easily be excited again. *I think it therefore, safer to perform the operation of extirpation at once, allowing the ascitic fluid to come away at the same time.* In the case of paracentesis abdominis, which I have just mentioned, I certainly should not have performed that operation had I been positively certain of the existence of a tumour; but as neither the history of the case, nor present examination, pointed out such a circumstance as probable, I acted accordingly. The case of Mrs. Wheeler bears out the fact as already advanced by Mr. Lizars, that the most formidable adhesions to be met with in ovarian tumours, are omental; in this case, a vessel of moderate size was so connected with the tumour, as to require securing when cut asunder. The pedicle, as I expected from the history of the cases of various authors, I found to be simply the broad ligament of the uterus, which with the fallopian tube, were of considerable thickness, so much so, as to interfere with the security of the vessels contained in it to supply the tumour, requiring them to be separately secured; this, future operators should carefully bear in mind. Mr. Lizars also recommends, if the long incision give not room sufficient for the tumour to be extirpated, to make a transverse incision. *I presume he means towards that side where the pedicle is expected to be found.* I am not prepared to say whether this be necessary, but am inclined to think that there is no tumour capable of being held within the parietes abdominis, but what might be extirpated through an incision from the ensiform cartilage to the pubes.

There is one circumstance that deserves particular notice, since it tends to show the great obscurity which often exists in ovarian disease; in three instances, operations have been performed on individuals supposed to be labouring under ovarian disease to a considerable extent; and yet, when the abdominal cavity has been opened, no tumour could be found; and this has happened in the hands of first-rate surgeons, and of great experience in ovarian diseases. One is recorded of Dr. Dohlhoff, a second by Mr. King, of Saxmundham, Suffolk, and a third by Mr. Lizars, who candidly observes, "The reason why all of us were deceived in this woman's case, was, the great obesity and distended fulness of the intestines, together with some protrusion pubic of the spine at the lumbar vertebrae. This did not appear at all conspicuous before operating, otherwise it should, and must, have struck some of the medical gentlemen present who examined her; *nor did it occur to myself during the operation, nor until some time after*, when I could find no just cause for being so singularly deceived." Mr. King when not able to find the tumour after the incision, regrets that he did not raise his patient out of the horizontal position, as the tumour generally appeared in the standing or sitting posture before the operation.

Such circumstances tend to show how difficult it is to form a correct diagnosis. It does appear to me most singular that the circumstances to which Mr. Lizars attributed his being misled, were not fully and satisfactorily developed to him during the operation if they existed, for he says, "*nor did it occur to myself during the operation, nor until some time after.*" A circumstance analogous to these, presented itself to me since the operation on Mrs. Wheeler. A female called upon me respecting a tumour which she said she had in the abdomen, and which she was very anxious to get extirpated, stating that she had been troubled with it for upwards of two years. When in a standing position, the abdomen appeared much tumefied. I carefully examined the abdominal

surface, but no tumour could I find; on expressing myself to that effect, she appeared disappointed, so determinedly had she made up her mind to have it extirpated. I then caused her to sit up and subsequently to stand; in both these latter positions, the belly became tumefied irregularly in the form of an arch, the apex of which was situate above the umbilicus, whilst the origin and termination were in the iliac regions; on handling it, it disappeared (that is by pressing it). I looked upon this case as one of confined flatus, and not of tumour, though it is possible I may be deceived; but certainly no persuasion could induce me to operate for tumour, although my patient is still convinced there is a tumour, and presses me to remove it. In many cases of ovarian disease of long standing, the constitution suffers severely, and becomes so worn down, as to furnish plausible arguments against any attempt at extirpation. This, I am of opinion, has been carried too far; no person could scarcely present worse features in this respect than Mrs. Wheeler, and yet she recovered without a bad symptom. It is questionable if these depreciated constitutions do not present less liability to peritoneal inflammation than others.

Looking at all the circumstances connected not only with the operation by large and small incision for diseased ovaria, but in all operations that have taken place in respect to the abdominal cavity, where the peritoneum has been cut, there is abundant evidence to prove that the peritoneum is not by any means so disposed to take on inflammatory action, as has been generally supposed; and this simple fact in itself, may create a great change in abdominal surgery. Hitherto extirpation of diseased ovaria by the large incision particularly, has been held as highly speculative and improper; but surely the results that can now be shewn, must at once and for ever, settle the question, and establish it as a perfectly legitimate and more than ordinarily successful capital operation, as I shall more distinctly prove at the conclusion of this paper (that is), if medical statistics are to be relied upon at all. When compared with the results of other capital operations, lithotomy, lithotrity, and even amputation, it stands in a far more favourable position, and it is a very strange prejudice indeed, that can admit those capital, and more frequently fatal operations, above mentioned *as legitimate and advisable* whilst one less fatal is summarily condemned, and forborne to be mentioned in the instructions to the rising faculty. I think I have said enough to prove, that preference ought to be given to the operation by large incision for the extirpation of diseased ovaria; the very great obscurity hanging over the many circumstances connected with the tumour are only safely to be met, by the free incision; to to attempt the minor operation and meet with those features *known to be frequent*, must compel the operator to resort to the large incision, under the unfavourable circumstances of a partly emptied tumour, fluid escaped into the abdominal cavity, and adhesions lacerated; or the dreadful alternative, death to the patient without an attempt to relieve.

It is to be hoped that the prejudice hitherto existing against this rare and formidable, but successful operation, will cease; and that it will in future be classed where its merits have proved it to be worthy.

(To be continued.)

INSPECTORSHIP OF ANATOMY. The dismissal of Dr. Somerville has been followed by the appointment of Dr. A. Wood, as inspector of England, and Messrs. Bagot and Rutherford Alcock, as inspectors of England and Wales. We were mistaken, with reference to the appointme[illegible] Sir J. Graham's private physician

APPENDIX

TO

ORFILA'S LECTURES ON ARSENIC.

Collected and Translated by JOHN DAL PIAZ, Pharmacien and Laureate of the School of Paris.

Conclusions of the Report of the Academy of Sciences, referring to the Poisoning by Arsenious Acid. Commissaries: Messrs. Thenard, Boussingault; and M. Renaud, reporter.—1. Marsh's method can easily detect one millionth part of arsenious acid existing in a liquid: arsenical stains may even begin to appear when a liquid contains no more than a two millionth part.

2. The stains are not rendered more evident by a large quantity of liquid than by using a small quantity; it being understood of course, the same quantity of arsenious acid to exist in each; but in the first case the same amount of stains is produced after a greater length of time than would be required by using the more concentrated of the two solutions. Thereby results the advantage in concentrating the arsenical liquid; as by operating upon a small volume, stains of a more substantial character may be obtained.

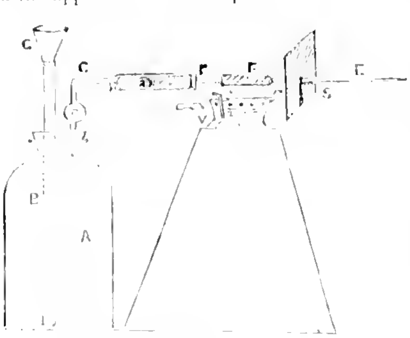
3. It is of the highest importance, when using Marsh's apparatus for the purpose of detecting arsenic, to force the gas through a tube filled with asbestus or cotton, which is necessary to retain the minute portions of the zinc solution always carried mechanically away by the current of gas; otherwise the operator may subject himself to error, as in this case there may be produced stains of oxisulphuret of zinc which have often a resemblance to those of arsenic.

4. The procedure of Monsieur Lassaigne is capable of producing good results. This consists in passing the arseniuretted hydrogen through a perfectly neutral solution of nitrate of silver, and again decomposing the liquid by chlorhydric acid; then filtered, evaporated to dryness and the residue tested as for arsenic. This same procedure is also very convenient, by enabling us to introduce into a small quantity of liquid a minute portion of arsenic existing in a large quantity of fluid, which cannot be concentrated by evaporation, thereby enabling the operator to obtain much better characterized stains by introducing the liquor into a very small apparatus. One must be careful not to conclude that arsenic exists in the liquid because the solution of nitrate of silver happens to become turbid, and produces a sediment during the passage of the gas. Similar results may be produced by non-arseniuretted gases mixed with hydrogen, or even by pure hydrogen alone, under the influence of light.

A solution of chlorine or of an alkaline chloride may be substituted for that of nitrate of silver.

5. The method of disposing the apparatus, as indicated by Messrs. Berzelius and Liebig, and usefully modified by Messrs. Kæppelin and Kampmann of Colmar, will render sensible such minute quantities of arsenic as are not manifest, or only doubtfully so, by the ordinary method of stains; such a disposition of apparatus has also the advantage of condensing more completely the arsenic, but it will often happen that this metal will be found mixed with a portion of sulphuret of arsenic which may alter its colour; particularly if the arsenical substance exists only in minute quantity.

Your commissaries have given the preference to this last disposition for isolating arsenic: they think the apparatus is best disposed as follows:—



A is a wide-mouthed glass vessel having a bung, pierced with two holes; through one of these passes a straight glass tube, B, about one centimeter (half an inch) in diameter, and reaching to the bottom of the vessel; through the other hole passes the tube C, of small diameter and bent to form a right angle. This last tube terminates in a larger one, D, filled with asbestus and about three decimeters long (11 inches): a tube, E E, of the least fusible glass, and about two or three millimeters (1 millimeter is equal to one twenty-fourth part of an inch) in diameter, is fixed to the extremity of the asbestus tube and terminates at its furthest extremity in a very fine point similar to that of a blowpipe. This tube, which should be several decimeters in length, has a ribbon of sheet copper, F, coiled about the part near the asbestus tube. This sheet copper should not extend to more than one decimeter.

The glass vessel is selected of such a size as to contain all the liquid to be examined, leaving, at the same time, an empty space equal to about one-fifth of its total capacity. Nevertheless, it should be born in mind, that the volume of the liquid should not be too considerable, if it contains only traces of arsenical matter.

The tube through which the gas escapes from the vessel has its vertical extremity a little flattened, and upon any part of its outer vertical branch a ball, O, is blown; this last arrangement is not indispensable, it is however convenient, as in this case nearly all the liquid carried into the tube by the current of gas, becomes condensed and falls back again into the vessel.

The apparatus being thus disposed, a few strips of zinc are introduced into the bottle with a sufficient quantity of distilled water to cover the bottom of the safety tube, B; a small quantity of sulphuric acid is then added. Hydrogen begins immediately to form, which is allowed to pass for some time before the arsenical liquor is introduced; this is for the purpose of clearing the vessel of atmospheric air.

The part of the tube which is surrounded with the copper foil is then made hot by means of incandescent charcoal placed upon a chafingdish V; a small screen S is so adapted as to prevent the tube being heated at too great a distance. The suspected liquor is then introduced into the apparatus through a funnel G having a small termination, in such a manner that the liquor may slide down the side of the safety tube—thereby preventing the admission of atmospheric air. If the escape of gas is not sufficiently rapid, it may be easily increased by adding a little more sulphuric acid through the safety tube; the operation should proceed slowly and with all possible regularity.

If the gas contain arsenic, this will be deposited in the form of a ring, a little in advance of the heated part of the tube. The gas escaping through the capillary extremity of this same tube may be inflamed, and stains collected upon a porcelain saucer. In fact arsenical stains may always be obtained in this manner, when the heat is applied to a sufficiently extended part of the tube, or when this is not of too large a diameter. This tube may also be curved in such a manner as to admit of its being immersed into a neutral solution of nitrate of silver; thereby condensing the last portions of arsenic.

Metallic arsenic being once deposited in the tube, it is then easy to ascertain all the physical and chemical properties which belong to that substance.

1st. Its volatility.

2dly. Its transformation into a white sublimable powder (arsenious acid) when heated in a glass tube open at both ends and held in an inclined position.

3dly. By heating a little nitric acid, or eau regale in the tube, the arsenic will be converted into a compound very soluble in water (arsenic acid;) the solution evaporated to dryness in a small porcelain capsule will, by the addition of a few drops of a concentrated solution of nitrate of silver, produce a precipitate of a brick-red colour.

4thly. After being subjected to all these proofs, the metallic arsenic may again be isolated. To effect this, it is necessary to add a small quantity of black flux to the brick-red precipitate con-

tained in the capsule, and evaporate the mixture to dryness. This dry compound is then to be introduced into a glass tube closed at one end and drawn to a small orifice at the other. The mixture is then made to fall to the bottom of the broad extremity by gently shaking the tube, and is there subjected to a red heat.

The arsenic thus reduced to its metallic state becomes volatilized and condensed in the narrow orifice, forming a ring which presents all the physical properties of arsenic, even when there exists only a minute quantity of that substance.

It is easy to find in commerce, zinc and sulphuric acid not susceptible of yielding arsenic by Marsh's apparatus, even when a considerable quantity of zinc is dissolved. The sulphuric acid we made u e of, had been purified by distillation and the zinc was in very thin sheets.

In all cases it is absolutely that necessary the operator should carefully test all the substances he is likely to use in his researches; we even think preliminary experiments, or analysis, do not warrant a sufficient guarantee; but that it is necessary the operator should make blank experiments, immediately after his examination of the poisonous compound, making use of the same tests and in the same proportions as were used in the real operation.—Therefore if the substances have been carbonised by means of sulphuric and nitric acids it will be necessary to evaporate in a similar apparatus the same quantities of these acids as were used in the real operation; afterwards to add to the residue the same bulk of water; in fact to repeat with the tests only, all the operations he may have previously effected in the real examination.

7. The mode of carbonising animal substances by means of nitric acid, or nitrate of potash may be complete; but it sometimes happens one cannot prevent a violent deflagration, which often takes place towards the end of the operation, attended in all probability with the loss of a certain portion of the combined arsenic.

The carbonisation by sulphuric acid, and afterwards submitting the residue to the action of nitric acid, or eau régale, seems to us the most preferable method in many respects. The mode of proceeding given by Messrs. Danger and Flandin requires a much smaller quantity of reagent and the experiment is always without difficulty, when properly undertaken.

The results of our experiments lead us to conclude, that this mode of proceeding is attended with the loss of only a very minute portion of arsenic; one may prevent all chances of loss by carbonising the matter in a glass retort provided with its recipient.

8. It is of the highest importance that the carbonisation of the organic substance should be complete, without which not only is there obtained a liquor producing froth in the apparatus, but this liquor may produce stains presenting often a great resemblance to those of arsenic. The stains observed for the first time by M. Orfila and called by him "Taches de Casse" are often abundantly produced in cases when the organic matter has been imperfectly carbonised. These stains arising from the decomposition of carburetted gases are readily distinguished from those of arsenic by their chemical reaction; serious mistakes might, however, occur if the operator regarded only their physical characters.

9. All the experiments we have made to discover the arsenic which is said to exist in the human body in the normal state, have been attended with negative results.

10. The commission resuming the instructions contained in this report concur in the belief that for the wants of all medico-legal researches, the process by Marsh's apparatus, attended with all the precautions stated, will be quite satisfactory, especially as the quantity of arsenic to be brought in evidence is almost always superior to that which the sensibility of this apparatus can with certainty detect; it being understood at the same time, that this apparatus should be only used as a means of concentrating the metal, in order that its chemical characters may be studied with more certainty, and that the indication it might furnish should be considered of no value, or at least as very doubtful, in those cases where the deposit in the tube is not in sufficient quantity to admit of its being chemically examined.

We may add that in the greater number of cases of poisoning, the examination of the matter ejected, or of that which remains in the intestinal canal, will be sufficient to convince the operator of the presence of arsenic and that it will only be necessary to have recourse to the carbonisation of the organs when the first experiments have been unsuccessful, or in those cases (which are very rare) when presumed circumstances of poisoning seem to render it requisite.

Your commission, taking into consideration the importance of the question and the efforts which Messrs. Danger and Flandin have made to elucidate the use of Marsh's apparatus, beg to present them the united thanks of he academy.

Your commission think he academy is also indebted to Messrs. Lattaigne, Keppelin and Kampmann for their useful modifications in the mode of proceeding by Marsh's apparatus.

(To be continued.)

EXTRAORDINARY CASE OF ARTIFICIAL SOMNAMBULISM, AND CLAIRVOYANCE.

To the Editor of the 'Medical Times.'

SIR,—A few days since, I sent you an account of what passed the first time I mesmerised Calixte, whom, I then called "Caliste" by mistake. I am now going to give you an account of his subsequent sittings. During his second sitting, we were alone—I said I was ill, and begged him to examine me. He said, after feeling *himself* all over, that, "I had a pain in my head just there," (marking the spot exactly with his finger on his own head), "that the stomach was sore, and that I had a pain down the back, legs, and *knees particularly*." I asked which knee was the worst? "That," he replied, pointing to the right one; and continued, "the cause is irritation of the chest, for you have a cold, though you don't feel it yet." (For I denied the irritation of the chest, though he has since proved quite correct.) He promised me I should be quite well the next day, if I followed his prescription (which was very simple), but that I should have a little headache the next day, which would go off as the day wore on. The next day I was quite well, and free from pain, and the headache existed and went off, just as he had said; which, added to his discovering my painful knees, and that the right one was the worse, which no soul on this earth knew, was at least extraordinary. I then put him *en rapport* with a lady, whom I had often tried to put to sleep, but failed, and I asked him what I had better do to succeed. He just touched her fingers, and carrying his own to his nostrils, lips, and forehead, he seemed to reflect, then said with a start, as if frightened,—"She has already seen another somnambulist!" and then added, after a pause and a slight movement of surprise; "'tis Virginie! How I hate that girl!" and on my asking why—he said, "because she has ill-treated me, and was the cause of my leaving M. Ricard." How he arrived at his knowledge, unless there be a fluid, or some emanation, capable of passing from one body to another, is quite inconceivable. How could he tell which knee was the most affected! No soul in this world knew it but myself. He then examined for me, a sick person, whom, I know well, he had never seen; and, of whom, I have every reason to believe, he never heard of. He felt himself all over, and then described her complaint, and all her sensations most exactly; I then gave him some sealed letters to read, as I had done in his first sitting; but, as before, he said he could not, but promised to read them in a few more sittings, if I would always give him the same letter till he succeeded. Without giving him any notice, I then *mentally* desired him to get up and sit in a chair by his side, but a little further back. He seemed very much agitated, and desired to be awoke, but I did not comply, and still continued my will. He then got up, approached me, went back again, and I thought was going to take the chair I desired, but fell again into his former one; he pushed it back, however and made it occupy the space occupied by the chair I wished him to fill. I thought this pretty well for a first trial, and only the second time of mesmerising him. He asked me if I had not tried to awaken him by the "will" instead of by "passes," which he said I had not yet power over him sufficient to do; I told him I had not tried to do so, and then I awoke him.

Third sitting.—We were again alone; he said "he saw the sealed letter better than the last time—that he was sure he should read it; he could already, he said, see an 'm' and an 'it,' and show me which way the writing ran. He should first make out all the letters, and then arrange them in the order in which they are written." He never once has looked at the letters, but places them on his chest.

Fourth sitting.—About fifteen persons were present, some I dare say came with the idea of having a laugh at me; and, like all other sceptics, when called to see a mesmeric experiment, came very late; in consequence of which, experiments often fail. The instant Calixte was asleep, we proceeded to bandage his eyes with pads of cotton wool, and a white silk handkerchief. He played cards with the person who appeared the most sceptical in the room. It would not be easy to describe the surprise of the gentleman, who sat down to play with him when after he (Calixte) had sorted the cards, they cut for deal, and before he (Calixte's adversary), had himself time to perceive which had cut the highest, and with the cut cards still in his hand, Calixte moved the rest over to him, saying, "it is you to deal;" and on being asked to name the cards, he did so correctly. All the same experiments were gone through, as in the first sitting, of which I have already given you an account, and all perfectly succeeded. I showed him the sealed letter, and he then made out an 'E' and appeared very sure of reading it. We put him in a corner of the room, with his back to the piano, and begged him to beat the time to it, which he did, while a lady played; and, at a signal from one of the sceptics, I (standing in the middle of the room, between him and the piano), made him deaf, when he ceased to beat the time, and again began, when, on a signal, I made him hear. I proposed to try if he could receive from me a mental order, but stated, that I very much doubted, of any perfect success, as he told me he had not yet any community of thought with me, so as to answer mute questions. However we resolved to try, and one of the gentlemen wrote on a piece of paper, which was given me at the furthest end of the room from him,—"Let him walk up to you, and then pick up that handkerchief." I tore up the paper, and bid him mentally to do so. He got up, walked up to me, and there stood; he seemed very much agitated. He then had his back to the handkerchief, which lay at a lady's feet, and being close to her white dress, was not easily seen, even by a person awake and with his eyes open. He stood still for a moment and desired me to think well of what I wanted him to do. He suddenly gave a start, and with an exclamation, as if he had received an artificial shock, turned round and picked up the pocket handkerchief. I cannot conceive an experiment more fit to convince a sceptic. When we had concluded all the experiments mentioned in the first sitting, we proceeded to unbandage his eyes, which we had examined several times during the evening. I called the most sceptical round him, and made him put back his head till his face looked upwards. We then loosened the handkerchief, and turned up the cotton wool till we got to the eyes, when we found them quite embedded, open, and nothing but the whites to be seen. What could any one say? Nothing.—Those who had laughed at me and Colonel Murray, a few evenings before, as poor creatures easily imposed on, were mute, and confessed there was no room for deception; and, even if there were, there was no room to suspect any. Calixte was awakened at his own desire, and the Séance ended.

Fifth sitting.—We were alone; I desired Calixte to examine, a patient, who had been ill for a very considerable time, and who, I understand, has received no relief from the hands of the medical profession. I never saw her before, nor did I know her complaint. She was the *bonne* of a lady living over me. He described her sensations, pains,

complaint, &c., exactly; and described to me the state of all the vital organs. The poor woman was quite dumb-foundered at hearing her complaint described so minutely by such an utter stranger. He prescribed for her, and, to my mind, with the greatest good sense,—and things, too, which I should never have thought of.

Whether their power of curing equals their power of discovering the disease, I cannot yet tell; I must wait, before I can give an opinion, to see the effects of the several prescriptions he has given, and the result of his many promises of cures.

I have here, a female somnambulist, who is so excessively sensitive to the influence, that I am obliged to mesmerise her across the room, and very mildly (I mean with very little energy), or the blood rushes to her head and face, and she gets in a state not easily described; she talks, and will no doubt improve every day: she does not believe when awoke, that she has been asleep, but says, "she supposes she has, as her husband, and every one else tells her so; she also adds, "she does not believe much in mesmerism." It is surprising, Mr. Editor, that some of the medical gentlemen, who seem to feel with regard to mesmerism, as if it were a blister on their side, do not try to explain these, apparently to them, strange facts. Perhaps it may, in some way, be accounted for, by the impossibility of any one looking well into the subject, even with the intention of opposing it, without being himself converted. Vimont's collecting proofs against Gall, and converting himself, is perhaps an illustration of this: I cannot, but believe, that, at this moment, half the medical men in London, know the main facts of mesmerism to be true, but that each one fears to confess his belief, for fear of standing alone, the but of ridicule. Were mesmerism put to the ballot amongst the medical men of Paris and London, I think, if mean interest did not sway them to deny it, they would acknowledge such a state as *artificial somnambulism*, capable of being produced by one human being in another. I say "artificial somnambulism," for who does not know what there is in a name to prejudice mankind. The quantity of works published here on the subject of mesmerism [illegible] Editor, it is, to see [illegible] of [illegible] opposing it on the gr[illegible] its impossibility, while, to us, it is a[illegible] every day occurrence; and, we have, an[illegible] positive proof: yet these very men think [illegible] one for doubting any particular dogma of their particular religion, whatever religion that may be, though their facts are contradictory, and their evidence mere words and hearsay. Where is the consistency of such men? Could any man give me such proofs of the truth of the religion of the "fire worshippers" as I can give, and have received of mesmerism, before I believed one word of it, I would turn fire worshipper instanter. I fear anything I might say on the subject, Mr. Editor, might as well be left unsaid, for all the good it will do in advance of truth. If the evidence of such a man as Dr. Engledue, goes for nearly nought in the medical world, what weight can I hope to have! Still, frequent assertion of its truth, however humble an individual, may induce those who have not yet learnt to dispute the evidence of their senses, to look into the subject. Of course, from those to whom I am unknown, I have no right to expect much belief or credit; but, Mr. Editor, I do expect, and, I have a right to expect, that to those who have known me for years, and are well acquainted with my character, as one whose truth they cannot doubt, and at whose door, they have never yet had to lay the charge of [illegible], my evidence given in the simple way it is given, should be enough to make them think the matter, at least, worthy of serious attention. I do not say, it should make them believe, for I have formerly refused, and would refuse again, to accept what I now believe, on *[illegible] evidence*, as "not in proportion to the facts to be proved," which is the very nature and essence of [illegible] evidence. What a pity it is that most of the French authors mix up what they do NOT KNOW with what they DO KNOW, in the unreasonable way in which they mix up spirituality with mesmerism. They, by so doing, injure much their evidence; for while they rush into mad speculation, they get their facts suspected, by laying themselves open to the charge of being enthusiasts, and, doubtless, many of them are so.

I remain, sir,

Your obedient servant,

W. MACPHERSON ADAMS.

[illegible]

EXPERIMENTS IN MESMERISM.

To the Editor of the Medical Times.

On the 3rd instant, whilst waiting in Mr. Theakston's shop, a gentleman entered whom I had never seen before, and who proved to be Thomas Carstairs, Esq., surgeon, of Sheffield, visiting Scarborough to attend one of his patients. Mr. C. inquired for the *Edinburgh Review*, about which we began a conversation; took a glance at Christopher North, and ended about the last new discovery, mesmero-phrenology, when Mr. Carstairs declared he had mesmerised several persons both in Sheffield and Derby, where he had lectured on the subject. We expressed a wish to see some experiments, and he at once offered to shew the process if we would get him a subject. His deportment was open, candid, ingenuous and unpretending. There was not the slightest sign of any desire to astonish, or to make a marvel of the matter.

Mr. Theakston offered his errand boys for experiment, but Mr. C. failed of success in both cases, owing, it was said, to the noise going on in the printing-office, near the room where the experiments were tried. Mr. C., however, nothing daunted, said he would try again, if we would procure another subject. A servant of Mr. Leckenby's, on the opposite side of the street, consented to submit. She appeared a healthy, robust young woman of a sanguine bilious temperament, and about 20 years of age.

In the first experiment it seemed to require more time than subsequently to realize the coma or sleep, for she was three-quarters of an hour before she was put into the mesmeric state: Mr. C. during this time, simply looking or staring fixedly at her, and then making a few passes by the hand over the face, to close the eyelids. Whilst in this [illegible] Mr. [illegible] face, [illegible] producing the [illegible] of feeling or sensation; the face [illegible] remaining perfectly placid and serene, like one in a calm and dreamless sleep. In this condition she remained for about half an hour, during which time she was seen by several ladies and gentlemen, among others Mr. Dunn, surgeon, and Mr. Coulson, solicitor.

THE THIRD EXPERIMENT.—The same young woman again submitted herself to Mr. Carstairs, and as it appeared by the results, the party had become more susceptible to the mesmeriser's influence, for she was sent soundly asleep within eight minutes, and rendered apparently insensible to pain. Mr. C. was enabled to produce catalepsy of the arms, and to place them in an extended position, in which they remained until he altered the condition of the limbs. About 20 persons witnessed this experiment, and among the rest, that eminent physician, Dr. Simpson, of York.

THE LAST EXPERIMENTS. These were carried on at Mr. Dunn's surgery, and witnessed by a large party of ladies and gentlemen, amongst whom were J. E. Dennison, Esq., M.P., Major Thornton, Mr. Dunn, J. Woodall, Esq., Mons. Richard, and W. Bean, Esq. One of the subjects of experiment is a servant of Mrs. Barry, of Grove Villa, of a lymphobilious temperament. Mr. C. placed her in the chair, and taking her hands into his, he gazed at her for about ten minutes, when she fell into a profound sleep or the mesmeric condition, her eyelids closed, and the features wearing a placid expression. Mr. C. took his breast-pin into her hands and pricked her forehead and eyebrows, but she gave not the least indication of sensation or pain. He then raised her from the chair, and although still in the sleeping state, she stood alone, balanced and erect. Mr. C. then caused her to move a step or two, at the same time holding her by one arm, and then let her stand alone again for a moment. He next made a few movements before the body, without touching it, when to the surprise of every one present, the figure began to follow him with a slow and steady movement, gliding along like the ghost of Hamlet's father, dead to sense and feeling, yet alive and moving to the awe and wonder of the spectators. When he had retreated about three yards he stopped, the figure stood still also, when she had got close up to him, but without touching him. He then passed her on her right hand, when she slowly turned on her heels to the right also, and followed him back again, to where a chair was standing, on which Mr. C. next stood, and made several movements with his hands upwards above the young woman's head, but without touching it, when the body shortly began to give signs of making an effort to raise itself, and she stood on her toes. Mr. C. then placed her on a chair, and attempted what would have proved to me the most interesting feature in the experiment, namely the excitation of particular cerebral organs, but in this he failed, probably from the young woman not being put in the proper sleep—waking state. He succeeded, however, in getting her to speak, and to the question "Where are you?" she answered "at home." Mr. C.—"Are you comfortable?" Ans.—"Yes." Mr. C.—"What are you doing?" Ans.—"Sewing." Mr. C.—"Can you see anything?" Ans.—"Two candles." There were four on the table before her. A youth was placed before her at the distance of about 18 inches between her and the candles, and Mr. C. put the question "What do you see?" and she replied "A man." The writer stood about eight inches from the youth. Mr. C. then took his watch out of his pocket, and without speaking, placed his hand, holding the watch on the top of the head, over the organ of firmness and part of veneration. He then inquired if she saw anything? when she replied, "Yes." Mr. C.—"What?" Ans.—"A clock." Mr. C.—"What time is it?" Ans. "A quarter-past nine." The writer took Mr. C.'s watch from his hand and saw that the figures indicated the time mentioned precisely. Several gentlemen looked at their watches and declared that to be the exact time. This circumstance created considerable astonishment. That an individual apparently profoundly asleep, with the eyelids closed, could tell the time whilst the watch was kept at the back part of the top of the head was, indeed, truly surprising. One gentleman wished Mr. Carstairs to account for it, and he simply replied, "It may be a guess." Many, however, expressed their surprise that she should guess so accurately. Shortly after this the young woman was awakened by Mr. C. blowing in her face, or across her eyes.

Mr. C. then attempted to mesmerise three persons at one and the same time. The experiment was tried on the two young women above-mentioned, and one of Mr. Dunn's servants, who had also been previously mesmerised by Mr. C. The three sat side by side on the sofa, while Mr. C. sat opposite to them, and took the hands of two into each one of his own, and gazed fixedly at the centre one, and in about four minutes her eyes became fixed, glassy, and vacant. The one on his left hand fell into the same state in about another moment, and the third on his right in about three minutes after. He then put their arms into the cataleptic state, but in various positions: one with hands clasped and extended seemed supplicating; another, with the head a little averted and the hands held apart appeared to express disgust and abhorrence, whilst the third with her head more elevated and her hands apart and extended, seemed to express astonishment, mingled with admiration. The fixedness of their position suggested the idea of the mesmeric sleep being adopted for the study of the sculptor and the artist. When two of them were awakened they looked confused and surprised at the statue-like expression of their companion.

Mr. Carstairs stated in answer to some questions put to him as to the practical value of mesmerism, that he had extracted teeth from persons in the mesmeric state, and without any pain being inflicted on the patient; and also, that he had another patient who had been subject for 12 years to epileptic fits, and often had had two a day, and never went beyond two days without a recurrence of them, whilst for the last two months she had not had one owing to the application of mesmerism. Mr. Dennison informed the company in confirmation of

Mr. Carstair's statements, that on the Saturday previous, a person near Doncaster had had his leg amputated, without suffering pain. He had been mesmerised several times during the week previous to the operation by Mr. Topham, solicitor, and when the limb had been cut off and the patient was awakened, he felt grateful for having been saved from suffering, for the only circumstance that he could remember was hearing some noise like the "grunching" of a bone. It was also stated that when the limb requires dressing, he is thrown into the mesmeric state and the operation is performed without any suffering or annoyance to the patient.

Your Obedient Servant,

W. CRAIG.

Scarboro', Oct. 12, 1842.

[We must beg our correspondent to pardon our omission of his prefatory and closing remarks; we cannot give much space to mesmerism, and that little must be given to its absolute facts rather than its theories or reasonings. We have heard from another quarter of the amputation of a leg during mesmeric sleep, testified to by the Hon. M.P., and are not without hopes that we shall be able shortly to place all the circumstances of the astounding operation before our readers. In pursuing the course our readers have noticed in reference to mesmerism we have been guided by the opinion that the testimony of numerous, apparently, unimpeachable witnesses was so strong that if human testimony can evidence miracles, a position which no *christian* at least, and *we* think no *philosopher* can oppose, a fair case was established for ENQUIRY, especially as many of the wonders artificially produced, or rather invited out by mesmerists have, as is well known to every medical reader, presented themselves naturally in the swoons, catalepsy, transposition of senses and double consciousness of several well attested cases. The alleged facts of animal magnetism are, if true, the most deeply interesting that can occupy the attention of the human mind; and are pregnant with services for science and for mankind which the most enthusiastic imagination would probably find it difficult to overrate. If the facts are suppositious we are anxious, that our profession may have the honour of discharging one of its first duties, permanently undeceiving the public on an important point of medical science; if on the other hand the facts are true, we are anxious that our profession may have the high and appropriate distinction of early recognizing and honestly establishing them in the credence and esteem of society. We cannot—we consider—be too cautious in dogmatically laying down our own imperfect and limited notions of possibility as the unchangeable law of mystic and unfathomable nature's doings, and as medical men who have characters at stake, and who cannot be proved fools by the future except with some loss both in cash and reputation, we have perhaps no better piece of property than *a reasonable doubt*, and no higher wisdom than the wisdom of not being overwise.—ED.]

EPIDEMIC ERYSIPELAS,

Affecting the Throat, Face, &c. &c.

By J. B. Johnston, M.D.

(For the 'Medical Times.')

THE months of January and February of the winter of 1842, in Eastern Canada, which are usually the coldest and most severe, proved to be singularly mild, though the weather was exceedingly changeable, alternating frequently from 5 deg. below zero one day, to a complete thaw on the next, with a warm rain or bright sunshine. The consequence of such very unseasonable weather, was a most unhealthy state of the atmosphere, engendering every species of sore throat, quinsy, mumps, &c. Scarlatina likewise prevailed to some extent in the beginning of winter. But the most serious disease that arose about this time, was a singular species of erysipelas, attacking, in the first place, the throat and fauces. The tonsils, velum palati, and pharynx, exhibited a deep erythematic redness, followed, soon after, by great puffy swelling, attended with heat and burning pain of those parts, great difficulty of deglutition, food and drink being often returned by the nose; in some cases, so great was the swelling inside the throat, that if free incisions had not been made in the tonsils and neighbouring parts, suffocation appeared likely to ensue. The parotid and other glands about the neck, were much enlarged and painful; indeed, the first symptoms were generally pain and stiffness under the ears, followed by rigors, nausea, headache, quick pulse, thirst, and all the attendants of fever, with sore throat. After the affection of the fauces had continued two or three days, sometimes sooner, if not arrested there, erysipelas shewed itself in its true character on the face and head; where it would appear to have propagated itself by continuity of surface, for, after considerable pain and itchiness inside the nose, an erysipelatous spot would appear on the nose, whence it gradually spread in all directions, until the whole head and face were involved, producing the usual disfigurement of the features. The ears, more particularly, suffered from swelling and a deep-seated pain, which was in most cases followed, after some days, by a discharge of muco-purulent, or sanguinolent matter, from the meatus externus. Large vesicles, filled with serum, formed on the cheeks, forehead, and ears. The affection of the throat generally abated when the disease appeared on the face; desquamation of the cuticle took place, as in ordinary erysipelas, and an analogous process occurred in the mouth and fauces. Delirium was a very constant attendant on most cases. In some instances the complaint was confined to the throat alone. In the progress of the epidemic the disease changed its character in some respects, being accompanied with less debility than at its commencement. A peculiarity attending it was, the discharge of purulent or muco-purulent matter from some outlet, generally from the ear, sometimes from the nose, indicated by great pain over the frontal sinus. In other instances, large quantities of muco-purulent matter were expectorated for several days, without apparently any previously-existing disease of the chest. In the greater number of cases, large abscesses would form in different parts, but principally about the scalp, neck, axilla, or on some part of the thorax: these accumulations of matter invariably marked the decline of the disease. They took place in situations where there had not been any erysipelas, as well as on those parts that had been affected. It was remarkable, also, that at this time a great number of persons were subject to the formation of abscesses in different parts of the body, particularly about the glands of the axilla and groin, who did not labour under any local sore, and who had no other complaint; others, again, had very considerable febrile symptoms, with severe local pain, which would yield on the appearance of a collection of matter, containing sometimes from one to two pints of pus. Many persons, also, who were not attacked with any of the more marked erysipelatous symptoms, complained at this period of great lassitude, debility, and drowsiness, with slight sore throat; being evidently minor symptoms caused by the same epidemic. Sometimes the erysipelas of this epidemic appeared on the extremities alone, or on some part of the trunk of the body; in these situations, if not speedily arrested, it would shortly over-run the whole body. The pain and tenderness of the parts affected, appeared excessive. The persons most attacked by the disease, were (contrary to what obtains in ordinary erysipelas) children under puberty, and females, especially those in a state of pregnancy, who generally miscarried in consequence. In many instances, it appeared to be contagious. The convalescence was for the most part tedious, great debility being left behind, requiring the free use of wine and tonics. The bowels were often remarkably obstinate, rendering the use of croton oil necessary; the stools, in such cases, were of a pitchy blackness, with pain on pressing the region of the liver. In some cases, the disease spread down the pharynx, causing very urgent symptoms, mostly from the secretion of a viscid phlegm, clogging up the passage already much contracted from the swelling, and a feeling of burning pain extending down the œsophagus. In one instance I witnessed, the larynx appeared to be the principal seat of the complaint, giving rise to all the symptoms of cynanche laryngea—the patient recovered: in the same family, there were several cases of the disease, shewing itself in the face and throat. Sometimes it appeared to develope itself in the stomach and bowels, producing incessant retching, vomiting, obstinate costiveness, discharge of flatus, with great pain and heat of those parts. In Vol. II., p. 128, and Vol. III., p. 91, of the Transactions of the Medico-Chirurgical Society of Edinburgh, is recorded an account of an "Epidemic and Contagious Erysipelas, accompanied by a severe affection of the throat and larynx, which prevailed at Montrose, in Scotland, in 1822;" which appears to have resembled the one which I describe as prevailing in this part of Canada this year. In this town, containing a population of about a thousand inhabitants, nearly one-half were affected in some degree by the epidemic. The mortality, except with young children, was not very great, where proper medical assistance was had; left to itself, the complaint was very dangerous, from its propensity to spread and involve important organs. It has now continued for upwards of six months in this part of the country, but is evidently on the decline. It appears to prevail mostly in small country parishes, avoiding large towns. The country around is elevated and dry, and esteemed very salubrious. In 1832 and 1834, it was one of the few places in Canada not visited by Asiatic cholera. However, this year, the interments in Sherbrooke have more than tripled the average number of previous years. I may mention, in connection with this epidemic, that a very fatal distemper prevailed among horses, this last winter, in all the places where erysipelas shewed itself, which was characterized by many of the symptoms of that complaint, particularly about the throat. It was also observed that, for some time previous to the appearance of the epidemic erysipelas, slight cuts or scratches did not evince any disposition to heal, but would become inflamed and painful, and that punctures and wounds were frequently followed by severe diffuse cellular inflammation.

The treatment pursued in this epidemic was conducted on general principles. Blisters, in the early stage, were of great benefit, applied to the neck or behind the ears; they always relieved the swelling inside the throat, and required to be frequently repeated, or kept open. After a few days, stimulating poultices were put over the ears, to encourage the discharge from them, which frequently carried off the complaint. The head was generally shaved, and bladders of ice applied to it, with relief to all the symptoms, particularly the delirium. The bowels were kept open, principally by Croton oil, astringent gargles made use of, and when the fauces were much swollen, incisions were made in the tonsils and uvula. It was found very difficult to produce any action on the skin, the function of which appeared to be discharged by the kidneys, the secretion of urine being most copious throughout the disease. Whenever the erysipelas shewed a disposition to spread on the surface of the body, a very strong solution of nitrate of silver was applied, and if this did not succeed in arresting it, I generally touched the erysipelatous margin with the solid caustic, frequently to the extent of producing a blister, which almost always put a stop to its further progress. Some anodyne was generally necessary—belladonna and hyoscyamus appeared to answer best. Whenever any part evinced a tendency to suppuration, this was encouraged by poultices and fomentations. Bleeding from the system did not appear necessary, more particularly as all the diseases of the period were marked by debility; but blood was frequently abstracted locally from the head, temples, and throat, with decided advantage; leech-bites did not take on any bad action.

In the large towns, puerperal fever prevailed at this time, epidemically, yet no case came under my notice, of puerperal fever supervening on such women as miscarried while labouring under erysipelas. It was considered hazardous to vaccinate children during the epidemic under consideration, some having been reported to have died from erysipelas supervening after the inoculation.

I have made these remarks on the epidemic erysipelas, as it appeared in Canada East, in 1842, but as it likewise prevailed extensively at the same

time (and, I believe, still continues) in the neighbouring States of America, I hope shortly to see a better and more extended account of it in some of the medical periodicals of that country.

JAMES B. JOHNSTON, M.D.

SHERBROOKE, Canada East, Aug. 5, 1842.

ON THE SECALE CORNUTUM.

(In Answer to J. RIDOUT, Esq., Stratford, E. . . .)

SIR,—I am, at all times, most willing to give every information in my power, particularly on those subjects which I have communicated to the public. In respect to the matter of enquiry, viz.—"*In every respect do I agree with you, as to the priority, the decoction of Ergot of Rye claims over every other preparation of that drug; but there are to be met with many cases, where the secale cornutum is especially indicated, and where the delay in its administration, occasioned by the necessity for its extemporaneous decoction, would be attended with dangerous and not unfrequently fatal results. If you could point out any way, in which this evil might be obviated, it would, doubtless, be read with great eagerness and attention, by many others, as well as yours, &c.*

In answer to this, I beg to observe, my long and most extensive experience of the Secale Cornutum, enables me to meet the question without any difficulty. I acknowledge, that it is possible, that circumstances might occur, when a few minutes are of the greatest consequence, both to the patient and practitioner: but I have never yet met with a case (and on referring to my papers, my opportunities have not been few), when the time in preparing, and exhibiting the decoction, could have been said to have been time lost. The plan I adopted (when in active practice as an accoucheur), was simply the one I would earnestly recommend to others: which was this, I kept the Secale Cornutum, finely pulverized in doses of ℈iv. to ʒij. wrapt in pieces of sheet lead, obtained from the inside of tea chests, which enables the secale to retain its qualities unimpaired for a considerable time without occupying much room in my waiscoat pocket. In any case of emergency (such as you have so properly suggested), I called for a small saucepan, and a tea-cup full of hot water, if any at hand; if not, cold: and boiled it quickly. In five minutes I poured half the decoction off into a vessel for immediate use, and allowed the rest to digest a few minutes longer till wanted, giving each dose as hot as it could be conveniently taken. In my paper, on this subject, I allow a longer time for making the decoction which ought to be followed if time will permit: but if the secale be sufficiently powdered, its principles as a stimulant, are soon given out to the water; and if the case be really urgent, the above plan may be acted upon with advantage. From what I have observed of this valuable medicine, I feel certain, the action of the decoction is both quicker, and more effective than the powder given in substance; so that the time lost (or supposed to be lost), in preparation, is positively (when compared with the action of the powder), no loss at all; indeed, I question, if it be not a gain of time, rather than otherwise. I have often had to wait for a considerable space for the action of the powder; on the contrary, if the rules I laid down in my essay, be properly attended to, I have always found the action of the decoction to be almost immediate.

Hoping the above will be a sufficient explanation, and thanking you for your candour in making the enquiry,

I remain, Sir,
Your's respectfully,
CHARLES CLAY, M.D.

3, Piccadilly, Manchester.

Count Jaubert, known in the world of letters, by his botanical works, is at present preparing for publication, the travels of Aucher Eloy, a young French botanist, who, after struggling for ten years against a variety of dangers in visiting Egypt, Arabia, Syria, Cyprus, Greece, the Islands of the Archipelago, and Persia, lately expired at Dejulfa, near Ispahan.

SUSSEX COUNTY HOSPITAL. A vacancy has occurred in the surgeonship of this institution, by the resignation of Mr. Whitehouse.

TO CORRESPONDENTS.

College of Surgeons.—*We have received a great number of letters on the new regulations of the College of Surgeons. It is complained with great justice that their retrospective operation is a cruel injury to numerous persons, whose fortunes are more or less embarked in their son's receiving a diploma at the time, which, on entry, the College regulations gave him assurance of, provided he should be able satisfactorily to prove his competency. It is easy to conceive that the means of many a family may extend no further than the payment of the expenses required by the less exacting rules, and that if the College had required at the entry of a young man its present more costly course, they would have shrunk from the undertaking as beyond their means. There was here then a moral contract with the students which should not have been broken. We cannot too earnestly impress on the Council the necessity of immediately amending their oversight. We are aware that the Council are making many exceptions in the operation of their rule—why not at once do what justice, humanity, and wise policy require, exempt publicly from its operation all students entered before its emission?*

A Surgeon and Subscriber.—*No Surgeon can foist an empiric into a Poor Law Medical Charge under the pretence of partnership. Let the circumstance be mentioned to the Poor Law Commissioners if the Guardians connive at the wrong.*

F. *On the Proposal for forming a Sydenham Publishing Society, next week—as also Cases by Mr. Thornton, Mr. G. Laing, Mr. Annan, &c.*

A number of Correspondents under consideration.

Dr. Sufferen's Lecture on Chemistry—Mr. Nettingham's on Operative Surgery—M. Serres on the Development of Organs, Dr. Williams on Medicine, in our next.

We are obliged to postpone our concluding notice of Sir A. Crichton's Book till next week, as also notice of one or two other works.

Mr. Johnston's Case of Tetanus, cured by large doses of opium, and Dr. Gore's Communication on a New Preparation of Secale Cornutum, have been received.

Vols. 1, 3, 4, 5, *are ready in boards, price* 7s. 6d. *Vol.* 6 *is also ready, price* 10s. 6d.—*N.B. Vols.* 5 *and* 6 *were published under present management. Double price will be given for copies of No.* 34.

NOTICE.

ON THE 1ST OF DECEMBER NEXT, WE PROPOSE TO PUBLISH, AS AN APPENDIX TO OUR ORDINARY NUMBER, A *Medical Almanac*, FORMED ON THE ADMIRABLE PLAN FOLLOWED BY MESSRS. FOOTE & FARRE, IN THEIR ANNUAL POCKET BOOKS, AND REPLETE WITH MATTER THE MOST VALUABLE AND INTERESTING FOR THE MEDICAL PROFESSION. THE ALMANAC WILL CONSIST OF 72 QUARTO COLUMNS, AND WILL BE SOLD AT THE ORDINARY PRICE OF OUR JOURNAL VIZ. 4D. PLAIN, 5D. STAMPED.

THE MEDICAL TIMES.

SATURDAY, OCTOBER 29, 1842.

"Divide et impera."

WE have heard a great deal of nonsense, of late, on the Division of Labour. A certain Dr. Robert Hull whom, from his recent rather protracted silence, we may congratulate—we suppose—as in the enjoyment of a lucid interval, has been venting on this *interesting* subject we know not how many rhapsodies, in which, if his over-larding quotations were a little less infelicitous, or shewed the least imaginable connection with the topics he evidently wishes to write on, we should be led to consider his ignorance of the vernacular atoned for by some knowledge of the Greek—as his lack of sensible *ideas*, is fully explained by his marvellous plenitude of silly, pedantic *words*. As might have been expected, his notions have found much favour with a contemporary, who, to speak charitably of him, appears never to have written a line for his readers which was not penned under an impression, that to set his brain a-working would be a mortal sin against his one virtue—gentility; we mean, of course, the Editor of the *Medical Gazette*. This rational gentleman, backed by all the powers of Hull, has even taken the trouble to elaborate a leading article, demonstrating first, the utilities of a division of labour (a startling novelty in the way of proof, which would make the loss of Adam Smith's works a mere bagatelle); secondly, the advantages of a division of study and practice of different medical men, on different medical subjects, (a momentous matter never disputed, we may say, for the repose of mind of Dr. Hull and our genteel contemporary); and, thirdly—as a logical corollary—the benefits of two Colleges, *one* for Surgery, the *other* for Medicine—and *both* for jobbing, intriguing, and nepotizing. Our readers will pardon our insinuating that our two *genteel* friends were paying a sneaking thought to the last items of *their* tripartite division of labour; it is a compliment we are paying their judgments, for humbly as we may think of the men, we cannot suppose that such an intemperence of nonsense as they have indulged in, had no *human* temptation for its excuse, and, save fatuity, no *earthly* motive for its origin!

The first piece of absurdity of your men of division is—as we have already hinted—their inference that because the special study of special diseases has its advantages, therefore, a demarcation should be made, which confessedly has reference, not to the specific character of the diseases, but to that of their treatment,—a demarcation, the location on either side of which is decided, not by the nature of a man's study, or knowledge of this or that class of diseases, but by circumstances which have little or no connection with either. Let us concede that every disease shall have its own doctor—and the utmost rage for division can surely ask for nothing more than this—why shall surgery and medicine be separated, and confided to two classes of doctors? The two kinds of divisions have no relationship. They are not idem generis. They, in truth, exclude each other. The doctor of one disease, must be at once surgeon and physician, or else, he is but half master of his specialty: and the surgeon or physician, who carries out the principle of division of labour to its due limit, viz., taking one disease under his charge, has, in doing so, ceased to be surgeon or physician—he is both. So that in truth, the very principle of division of labour—so foolishly lauded by our elaborately empty Hull—and our weekly register of wit's bankrupts—the *Gazette*—is the very principle which proclaims the absurdity of the division into Surgeons and Physicians. The greater, coarser, section cannot coexist with the perfect and more refined demarcation. But let us suppose

that these two divisions can coexist without crossing each other, how absurd still is the course of deducing, from the advantages of *several* separate practices, the usefulness of having *two* separate Colleges. If the principle be, that specialties in practice shall be represented by specialties in Colleges, why shall not Mr. Curtis, and that modest *protegé* of the *Dispatch*, Mr. Yearsley, preside over a Corporation of Aurists? Why should not Dr. Monroe and Dr. Sutherland form the Council of a College of mad doctors (to which, by the way, Dr. Hull would form an essential attaché)? Why, in short, should there not be as many Colleges as there are peculiar branches of practice? If we are told that two governing bodies may *properly* take them all into their dual jurisdiction, we deny the statement. Our contemporary, singularly enough, cites Dr. Prout's case as evidencing the advantages of the present system. Now, which College, we ask, can *properly* claim him? *Both* cannot—for membership in one, *enforces* non-membership in the other. *One* cannot—for his practice is essentially *dual*. But even if two Colleges *could* include all practitioners, why might not *one?* A man may doubt whether his practice be surgical or medical—but no one of us doubts his being a member of the medical profession. Whatever two Colleges can do for us separately, could be done quite as well by them in a state of incorporation, with a saving of much time, much money, much order, much personal warfare, much general discontent.

But we are told:—"The divisions in the practice of medicine, give an opportunity to the lovers of *its science* to pursue whatever branch their fancy or interest dictates. They may choose the arduous but more profitable life of the general practitioner; they may engage in the learned studies of the physician, or they may give scope to their dexterity as pure surgeons!"

The scholastic essayist (who talks of medicine's science, and of dictating a branch!) is evidently as much at sea in his notions as in his verbiage. He labours under a double hallucination. He obviously fancies that medical reformers object to divisions *in practice*, and thinks that, because men should study that part of medicine which pleases or interests them most, they must, of necessity, have specifically *three* governing corporations! How astounded would our contemporary probably be, if told that, incorporated into one Faculty, "the lovers of medicine's science may yet," in the words of his own theme, "choose the arduous but more profitable life of the general practitioner; they may engage in the learned studies of the physician, or they may give scope to their dexterity as pure surgeons!"

In very truth we know of no more preposterous thing than the notion of separating surgery and medicine. It is about as wise as the divorce of anatomy and physiology. Essentially knit together by nature, we may abstractedly *imagine* a distinction in thought, but no ingenuity can enable us to maintain it in practice. We have only to consider for a moment the rapid uprise in respectability and pretensions, of the body of general practitioners—the variety of *mints* in which medical men receive their moulding, superscription, and title—the difference of qualifications or stations indicated in different places by the same names—and the vagueness and confusion of titles and practices which thence originate,—a result which, though springing from different sources, is observable in the practice of our most noted surgeons and physicians,—we have only to reflect on all these positive facts, to feel the absurdity of all our opponents' pretty speculations, and the madness of endeavouring to maintain a barrier of division which exists neither in nature, reason, nor expediency,—and which, without penal enactments in its favour, can not possibly support itself for another twenty years!

The last Regulations of the Poor-Law Commissioners, demanding, among other requisites, membership of a British College of Surgeons in all Poor-Law medical officers, are fresh in our readers' remembrance,—and they probably recollect that, impressed with the hardship which the requisition of a double diploma would entail on hundreds of gentlemen, who, from their possession of the Hall's License, were held competent by law to act as medical practitioners, we strongly represented to the College of Surgeons the expediency of admitting such sufferers to membership, under reduced fees, and with a suspension of the customary regulations. We are told that the Council, entertaining our proposition, under the presidentship of Mr. Guthrie, came to a resolution, which—though not conceding all we suggested—yet conceded enough to make their offer a boon of no small importance to a great many country practitioners. For some reason we are not acquainted with, this decision was not, at the time, officially made matter of publicity: to thousands, our last number was the first intimation that such a step had at all been taken. Yet we are told that, as early as July last, a letter was sent by Mr. Guthrie to one of the most influential public officers of the Provincial Medical and Surgical Association, announcing the circumstance, and begging that it might be made known to the members at the then approaching annual meeting. The letter ran much in this form:—

1, Berkeley Street, Berkeley Square,
July 14th, 1842.

Dear Sir,—I send you herewith a copy of a letter I have addressed to Mr. Howell, the Senior Member of the Surgeons of the London Unions, on the subject of the augmentation about to be made by Government to the sum already paid for the medical relief of the poor, which I shall be obliged by you making known to the gentlemen composing the Provincial Medical Association.

I regret very much that circumstances should render it necessary for the older members of the profession, who have no qualification, to obtain that of the College of Surgeons of London, in addition to one in Physic and Pharmacy.

The difficulty they might suffer from, has been, however, removed by the kindness of the Court of Examiners, who have, and are admitting, gentlemen of their standing to examination, on their merits practically, without reference to the regulations which are in force as to their education. There is no difficulty then in obtaining the diploma, except in the want of capability, which I trust will not be found among the gentlemen to whom I have alluded; and the expense to which they will be subjected, must be as nothing compared with the advantages which will be derived from the qualification.

I am, Dear Sir,
Your faithful Servant,
(Signed) G. J. Guthrie.

To Dr. Hastings, Worcester.

Will Dr. Hastings oblige us by answering three questions on this matter? Did he receive such a letter? If so, did he announce it to the members? If not, why did he decline? We infer not—we cannot *yet* infer—any charge against Dr. Hastings, but an answer to these queries will obviously be as much required by his reputation as expected by provincial practitioners.

LECTURES ON THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM.

By Professor OWEN, F.R.S., &c.

The brain of birds, like that of reptiles, consists outwardly of five principal masses, namely, the two hemispheres of the cerebrum, the two optic lobes, and the cerebellum, to which ought perhaps to be added the cerebral expansion of the spinal chord, called the medulla oblongata. This, however, as in reptiles and fishes, is without that inferior superadded body, called the pons varolii, or nodus encephali in mammalia: only an obscure representation of it, consisting of a thin layer of arched transverse fibres, the lower ones answering to the areiform filaments, can be discerned with any distinction in the largest birds, as the ostrich. The cerebellum offers in all those oviparous vertebrata, which can sustain themselves in the atmospheric ocean, the same complicated transversely folded condition as that which characterizes the strongest swimming fishes that soar in the upper regions of their atmosphere of waters; birds in this respect manifesting a sudden resumption of a type to which none of the grovelling reptiles could ascend. The optic lobes, by reason of the superior development of the cerebellum and cerebrum, occupy a different position to that which they heretofore presented. Instead of one line or series of tubercles, they are now pushed down below the level of the larger and cephalic masses, and are lodged in the inferior and lateral interspace of the cerebrum and cerebellum.

The accurate anatomist Coiter, was the first to notice, in 1573, the characteristic differences which the brain of birds presented as compared with that of quadrupeds in the absence of convolutions in the cerebrum, and the presence of an unusually large pars vermiformis in the cerebellum. Willis, extending his comparisons to the internal structure of the brain of birds, detected the absence of the corpus callosum, the fornix, and, as he believed, also of the corpus striatum; he describes the anterior and posterior commissures. Haller regarded the two small grey tubercles upon the crura cerebri anterior to the optic lobes, as the corpora striata. Soemmering and the Wenzals called the bigeminal bodies or optic lobes the thalami. Cuvier also considered the optic lobes as the optic thalami, and describes their true analogues as small appendages of the crura cerebri; they are, in fact, present in all birds, and form the lateral walls of the third ventricle. Cuvier, however, rightly considers the hemispheres as being formed almost exclusively by the corpus striatum. Malacarne held the anterior commissure to be the corpus callosum. Tieddeman denies this, and points out the commissure of the optic lobes, the pineal gland, and the sylvian fissure more accurately

than his predecessors. Meckel and Carus admit a rudiment or germ of the corpus callosum, and describe the ganglions at the origin of the acoustic nerves.

The cerebellum of birds consists almost exclusively, of the parts corresponding with the superior and inferior vermiform processes, as in the mammalian brain. The inferior process is, however, always smooth and without transverse plications; the superior is deeply folded, but with so much regularity, as to permit the plications being counted. It is important to observe, that the number of these folds which give the essential degree of complication to the cerebellum is directly as the swiftness and vigour of locomotion, inversely as the duration and physical pleasure of the coitus. Thus, in the drake or gander, which are provided with an elongated spiral, and largely developed intromittent organ, the number of folds in the cerebellum is thirteen or fourteen. In the sparrow, there are seventeen; in the jay, eighteen; in the magpie, twenty; in the swift, twenty-five. In none of these passerine birds, does an intromittent organ exist. Indeed, in no birds, save certain aquatic species, where the union of the sexes takes place on the water, is there any intromittent organ. They are, in this respect, worse off than the crocodile, the tortoise, the lizard, or the snake, in which the cerebellum is smooth, simple, and of much smaller proportions.

The cerebellum in birds, consists of a double plicated layer of nervous matter; the outer one grey, the inner one white, having an ample cavity in the centre, continued from the fourth ventricle. It is connected anteriorly by the valvula Vieussenii, —which is the most central and general, and apparently most important of all the commissural apparatuses of the brain—with the optic lobes, and the crura cerebri. It is connected laterally, as you perceive, in this preparation of the ostrich's brain by transverse fibres, forming a kind of diffused commissure with the medulla oblongata. It is connected behind, with the posterior and lateral columns of the spinal chord. The fourth ventricle is a deeper excavation than usual, and presents the median-longitudinal division or calamus, and the acoustic tubercle. The optic lobes form a single pair of hemispherical bodies, which we have seen to be regarded by some anatomists as the thalami optici, and by others, from their inferior position, have been called corpora mammilaria. Their order of development however, the analogies of the permanent embryo-like forms of vertebrata, and the transitory embryonic stages in higher animals, prove them to be the optic lobes, the analogues unequivocally of the bigeminal, or part of the bigeminal bodies, in the mammiferous class. This latter question is one of much interest, and which besets us in the first comparative glance, which we take of the brains of birds and mammals. Are the single pair of optic lobes in birds, which give exclusively origin—a double origin—to the optic nerves, are they the analogues of, or do they represent the whole mass called bigeminal bodies in mammalia? Are the bigeminal bodies in this class, the result of the superaddition of a transverse to the longitudinal cleft, which alone divides them in birds? Or, are the optic lobes in birds, the analogies of only one of the pairs of the bigeminal bodies in mammalia? And if of one only, of which? Some years ago, I sought in the works of the authors on Comparative Anatomy, for a satisfactory solution of these queries and in vain. I am not aware that the question is decided by sufficient inductive enquiry or analogies in any work. You will observe, that the optic lobes in birds, are far apart united by a broad thin medullary plate, covering a broad channel of communication between the third and fourth ventricles; you will observe, that the valvula Vieussenii, which connects the optic lobes with the cerebellum, is likewise of usual breadth, and that that part which is immediately posterior to the optic lobes forming the anterior terminations of what would be called, processus à cerebello ad testes, is somewhat thicker than the rest. In the brain of the ornithorincus, and of the echidna the optic lobes are again approximated towards the median plain, and the anterior part of the valvula and processus à cerebello, which are connected with them, present a still more marked enlargement, but do not yet project as a distinct pair of lower yet broader tubercular masses. This is the form, however, which the posterior bigeminal bodies or testes, as they are termed, present in the marsupialia and rodentia. By this series of analogies, we clearly perceive that the testes consist of a distinct and special development of cerebral matter in a part analogous to the broad and thin plate behind the optic lobes in birds; and that these lobes, therefore, are strictly, the analogues of only the nates or anterior pair of bigeminal bodies in the mammiferous class. The anterior and largest encephalic masses, called cerebarl hemispheres, are remarkable for their pedunculated connection with the rest of the brain. They present a slight oblique depression at their base, representing the fissura sylvii, and in a few of the more intelligent birds, as the magpie and parrot, there is a small longitudinal fissure at the upper and fore-part of each hemisphere. They present no other traces of anfractuosity or plications in any other part of their surface. The median side of the hemispheres, which are in contact are smooth and flat, and this contact is seen to be converted into union of substance at only one very small part at the bottom of the fissure by the chord analogous to the anterior commissure in man. A very remarkable series of radiated white fibres diverge from the anterior part of this commissure upon the flat, median surface of the hemispheres. The rest of the cerebrum consists of a reddish grey substance, traversed by very numerous white striæ which radiate from the crura. There is no distinct layer of grey and white substance, no cineritious cortex, this exists only in the cerebellum. There is generally a small pyriform olfactory tube at the anterior apex of each hemisphere.

The brain in birds, as in reptiles, bears a proportion rather to the heart than to the whole body. In the humming bird it is as one to twelve; in the ostrich as one to three thousand; the median, or average proportions of the brain to the body of birds, is computed by M. Leuret to be one to two hundred and twelve. The breadth of the brain always exceeds its length. The hemispheres chiefly consist, as Cuvier has stated, of a mass of cerebral matter, which, by its intermixture of grey and white matter, resembles the corpus striatum. The cerebrum has been thought, from its large proportionate size in some of the lightest and most diminutive of the feathered tribe, to be better developed in them than in the elephant, the orang, or even in man himself. But the supraventricular mass of cerebral matter, which constitutes the actual characteristic superiority of cerebral organization in the brain of mammalia, is in birds not better developed than in reptiles. The lateral ventricles—the only cavities in the cerebral hemispheres—are covered laterally, superiorly, posteriorly, by the thinnest imaginable fibre of medullary matter. Space seems to be almost altogether denied for the location of the phrenological organs, to which the very striking and various physchological manifestations, and instincts of the bird might be assigned. The corpus striatum here monopolises almost the whole of the cerebral division of the brain. Even that posterior boundary or wall of the ventricles, in which the instinctive cares and affections for offspring have been conjectured especially to reside, presents no appreciable increase of development in the nest-building, fond, feathered mother, who not only toils daily to feed, but broods over, cherishes, protects, and even fights for her offspring. The so-denominated organ of philo-progenitiveness has no greater development in bird than in the crocodile, which manifests its instincts and feelings towards its offspring by devouring them.

CASE OF GUN-SHOT WOUND.

By W. CRUIKSHANK, [illegible]

(For the "Medical Times.")

Mr. I. R. J., æt. 28, of sound constitution and perfect health, was returning from a shooting excursion, in the month of December, 1840, with his fowlingpiece loaded in the usual manner, with powder and small shot. On casually placing his right hand upon the muzzle, from some opposing substance coming in contact with the trigger, the powder was ignited and the contents discharged, producing a dreadfully lacerated and contused wound of the radial side of the metacarpal portion of the hand; the wound presented such appearances as are observed on discharge of fire-arms so close to the injured part a large, black, and ragged aperture. The metacarpal bone of the fore-finger was battered to pieces, as well as the os trapezium, to which it is attached at its carpal extremity. Mr. Cruikshank, on being immediately called to the case, found the fore-finger hanging by its flexor tendon, which he immediately cut across. He forthwith procured the assistance of two of his professional brethren, and commenced dissecting out that portion of the shattered metacarpal bone which remained, as also the fragments of the os trapezium: which dissection was effected with some difficulty, on account of the bones fractured with so much violence, having their fragments irregularly imbedded in the surrounding soft parts. The injury thus involving the synovial capsule of the wrist joint, rendered the case of the most serious nature; but Mr. Cruikshank resolved, along with his professional brethren, to save the hand, trusting to treatment, and the advantages of a good constitution to effect the cure.

A common bread and water poultice was applied for the first week, during which period, an abscess formed on the ulnar side of the wrist joint. The abscess was opened and the treatment changed for cold applications, in the form of keeping cold water constantly dropping upon the injured parts. This had the effect of removing the inflammation considerably; but in order to do so still more effectually, leeches were applied at intervals, during the process of the cure. The regimen of the patient was strictly antiphlogistic; consisting of occasional purgations, nauseants, low diet of a vegetable nature, and cooling diluents. This treatment was persevered in for the period of two months; at the end of which time, the wound was nearly healed, when the local applications were changed for that of simple dressing; which forming the final treatment, was continued till the wound was perfectly closed.

Afterwards the use of the fingers was gradually recovered by gentle exercise and friction with the linimentum camphoratum; but the wrist joint remains completely anchylosed.

EXTRACTS FROM FOREIGN JOURNALS.

ON WOUNDS OF THE HEART.

(Translated from the [illegible] Zeit[illegible], for the "Medical Times.")

([illegible] Vol. VI.)

We may put forth the following propositions for judging the danger and fatality of heart-wounds.

1st. All penetrating wounds of the heart, from which death suddenly follows, are to be pronounced fatal, whether death be caused by hæmorrhage, or from pressure upon the lungs and heart, or, in fine, from the nervous system by spasm and paralysis of the heart. We would call it hæmorrhagic death, when the patient has lost much blood externally, when one-half of the chest is found quite filled up by it, and when the symptoms of inanition are marked. It may be called death from pressure upon the lungs and heart when less blood has flowed out than in the case above, when the patient has died under symptoms of suffocation, and when much blood is found in the pericardium.

2d. In penetrating wounds of the heart, from which death has followed later, after some days, it should be carefully enquired, in what

manner death has arisen, and whether it might not have been prevented by proper medical treatment.

If death occur only in a later space of time from hæmorrhage and exhaustion, the wound may be declared to have been fatal, for here no help was possible.

If death occur from suffocation at any time, when from the time and symptoms it might be supposed that the wound in the heart had already closed itself, and dissection shews a large quantity of extravasated blood in the cavity of the chest as the cause of death from suffocation, the wound, when paracentesis has not been attempted, cannot be pronounced absolutely fatal. When the extravasation lessens and dissipates itself by reabsorption, without paracentesis, and death occurs without the operation having been performed, we cannot declare the wound to have been necessarily fatal.

If death arise from extravasation of blood into the pericardium, whilst the opening of the pericardium has perhaps even closed itself, the wound is to be pronounced absolutely lethal. The section must in this case shew the extravasation.

When death follows from inflammation of the heart, when in spite of the best treatment, the inflammation proceeds uncontrollably, and has a fatal termination, the wound is to be pronounced as absolutely fatal. This will be the case in young subjects disposed to inflammation, and where a foreign body, as the point of the wounding instrument, remains in the wound. The section here must shew the products of inflammation, and the absence of other quicker operating causes of death. But in heart inflammation, if death follow from manifestly improper treatment, and no causes are found that must necessarily produce inflammation, and the wound be already closed, and all other causes of death be absent, the wound is not to be pronounced absolutely lethal.

3rd. Wounds of the heart not penetrating, which cut the substance of the heart, without passing into either of its cavities, cannot any longer be considered as absolutely lethal. As these for the most part can only become fatal through the consequent inflammation, so is it valid reason to assert that death is caused by the consequent inflammation of the heart. They can, therefore, only be pronounced as necessarily fatal, when, notwithstanding the most proper treatment violent inflammation comes on, which terminates in death,—in individuals, who are much predisposed to inflammation, in cases, where a foreign body remains, &c.* but even also in the last case, where foreign bodies remain, healing is yet possible, as individual examples have shewn. The accuracy of the treatment must depend upon the history of the case, and the section afterwards must shew the products of the fatal course of the inflammation. But those wounds ought not to be pronounced as necessarily fatal, where the treatment was manifestly bad, when not the inflammation of the heart, but other circumstances have been the cause of death, as in the case presently to be cited from Neurohr. The case of Neurohr affords an instructive example of the kind. He, 19 years ago, pronounced such a heart wound to be not absolutely lethal, while the treatment was notoriously bad, which instead of extinguishing the inflammation, must have necessarily caused its augmentation, although death here was not caused by inflammation of the heart, but through the conflict of other causes, and was brought on especially by the irritating treatment. There was a wound one inch long and three lines broad, which went through the common integuments, and cut through the cartilaginous portion of the 4th rib on the left side, three lines from the sternum. This wound pierced through the pleura from without in a somewhat oblique direction, cut through the left lung, at its innermost end, half an inch in length and three lines in breadth. it then, in the same direction pierced through the pericardium, in its upper part, half an inch in length, and wounded the heart just below the entrance of the right ventricle, at its upper convex part, one short line deep, one inch and a half long, and one small line broad. No traces of inflammation were present in the heart, the pericardium contained four ounces of coagulated blood, in the left cavity of the chest was found between 10 and 12 ounces of partly coagulated, partly fluid black blood, which had been poured out by the severed intercostal artery. The pleura was free, no where adhering. The lungs were somewhat collapsed, yet normal; only where the left lung was wounded, inflamed spots shewed themselves from one and a half to three inches in circumference, yet without passing into suppuration or gangrene. During the course of the sickness, which continued 10 full days from receiving the wound till his death, the patient had difficult, anxious breathing, pain, stitches in the breast, small frequent pulse, strong fever, and great restlessness. The treatment was throughout faulty; no bleeding was attempted, no cooling aperient medicines were given. Instead of these, in three days from receiving the wound, nourishing diet, bark internally, cataplasms of wine and aromatic herbs. After a period of 10 days the patient died under great restlessness, quiet delirium, great dyspnœa, intermitting pulse. Neurohr here rightly judged that the wound was not necessarily fatal, but that death was caused from external circumstances, from the want of proper treatment, but nothing in the wound necessarily produced death in the lungs little, and in the heart no traces of inflammation were found, the treatment was throughout vicious, and no attempt was made to empty the chest of the extravasated blood,* which at length by its pressure and pernicious quality, brought on paralysis of the lungs and heart, with which the extravasation into the pericardium had freely co-operated, which nevertheless by itself alone could not have produced death.† That such wounds can, indeed, be again healed, the case communicated by Ollenroth, among others, fully proves, where the pericardium, and even the apex of the heart, together with the lungs, were wounded. A soldier had wounded himself with a knife where the 5th and 6th rib united themselves with their cartilages. After the wound had been dilated, one might discover a wound in the lung, the pericardium, and a superficial wound in the apex of the heart, which was six lines long. With the finger one might perceive how by the systole, the heart lengthened itself, and touched with its somewhat outward bowed apex the 6th rib, but by the diastole it shortened itself. The motions of the heart appeared to resemble the screw-like movements of a spiral spring. Whilst the heart contracted itself, the arteries dilated themselves; namely, when the point of the heart touched the finger, the radialis dilated itself. When after four or five beats, the pulse intermitted, so was the systole of the heart labouring and trembling. Bleeding was frequently used, and healing followed.*

4th. Wounds of the coronary arteries are absolutely fatal, for here, from the unceasing motion of the heart no closing of the arterial wound can be expected, and no help is possible — it may be that only a very small twig of the artery is wounded, which yet may close itself again.

5th. Ruptures of the heart which are caused by violent pressure on the chest, are absolutely fatal. Examples of this kind may be found in former as well as in latter times.† Death, indeed, here follows from the sudden filling of the pericardium with blood, which is permitted no exit, and which suddenly paralyses the heart not accustomed to pressure. Thus death follows quicker than when through other occasions a sudden outpouring of blood takes place into the pericardium.‡

* Neurohr in this case wrongly ascribed the death especially to the pressure of the extravasated blood. The paralysis of the heart and lungs might easily have been induced by so heating a treatment.

† Judicial inquiry upon a person who died after 10 days from a wound in the heart, by Dr. G. A. Neurohr, in Henkes Zeitschrift, 1825.—Hft: 3, S. 133.

PERISCOPE OF THE WEEK.

Muscularity of Arteries.—I feel a degree of confidence, says Dr. T. H. Moore, of Dublin, advocating in unequivocal terms that the fibres of the middle coat of the large and small sized arteries, be their calibre what it may, are essentially muscular; that they possess the appearance, the arrangement, the physical and chemical properties, and are subject to the same pathological lesions, as the muscular fibres in the tubular apparatus of the lungs, and the fibres in the different divisions of the alimentary canal; all which properties, however equivocal, anatomists, physiologists, and chemists, may pronounce them to be in the healthy condition of the artery, yet are rendered so manifest in the pathological lesions to which these vessels are subject, that they are more than sufficient to dissipate our doubts, and confirm these statements. Who, in the current year, would have the hardihood to assert that the bronchial tubes of the ternary, quaternary, or septenary order of bifurcation, were destitute of muscular fibres, because to the eye of the anatomist they are often invisible; by the hand of the anatomist they frequently cannot be traced; and in the analytical experiments of the chemist, they may be found deficient in that proportionate quantity of fibrine entitling them to rank as muscular? Who is that physiologist, be his experiments performed with the most exquisite dexterity, who has succeeded in producing contractions of the muscular fibres in the bronchial tubes by the electric and galvanic stimuli, even though he employ triple the number of plates with which he failed when experimenting on the middle coat of the arterial tubes?—In a variety of pathological lesions of the arterial system, the preparations of which were subjected to microscopic examination, the formation of small circumscribed accumulations of yellowish-coloured particles has been noticed, varying considerably in size, from a pin's point to the circumference of a silver penny; and in consistence, from a state of perfect fluidity to that of thick cream, collected into a soft pulp or pap, which, when washed away, an eroded, irregular, jagged depression was distinctly apparent: the continuity of the fibres of the middle coat being intercepted, and, as it were, destroyed by ulceration. To such a degree had this destructive process progressed, that the external cellular tunic has been visible

* Schmuckers vermischt chir. schriften, bd. II

† Zwei neuere Fälle s. in Rust's Magazine. Bd. XVI. and in Gräfe's and Walther's Journal, bd. V.

‡ Salzmann de subitanea morte a sanguine in pericardium effuso. Argentor 1731.—Metzger's system des Gerichtl, A. W. 4 Aug. S. 137.

underneath, and when held to the light was perfectly diaphanous; whilst the internal lining serous membrane, covering these yellow-coloured patches, had lost much of its natural polish, was discoloured, hypertrophied, rugous on its surface, in many places thrown into small but distinct folds, easily separable from the middle coat; but very seldom have I seen in this diseased condition of the artery an abrasion of its surface; whilst a complete dissection has been performed between it, and the middle coat, by the process of suppuration, which had originated in it, was confined to, and progressed during the patient's life-time, amongst the muscular fibres of the middle coat.

Onyxis.—The diseased lateral growth of the nail of the great toe, when it presses into the surrounding soft parts, and causes a fungous granulation to spring forth, may be cured by the application of Vienna paste to that portion of the matrix of the nail, which corresponds to the part involved in the vicious growth. The adjacent parts are to be protected by adhesive plaster. By the destruction of the matrix, the reproduction of the diseased nail is prevented. The Vienna paste is the potassa cum calce, prepared with six parts of quick-lime and five of pure potass.

Iodruet of Potassium in Syphilis.—Dr. Langevin, of Havre, has detailed a series of cases of secondary and tertiary syphilis, in which he found the internal administration of the ioduret of potassium in large doses of exceeding service, in every instance effecting a speedy and sustained cure by its use. The first case he details is that of a young man, twenty-five years of age, who had injured his constitution by excesses, and still further by repeated mercurial salivations, which had occasioned alopecia and the loss of his teeth. When he consulted Dr. Langevin, besides syphilitic exostoses on the ribs and nocturnal pains, his left elbow was converted into a semi-spherical tumour as large as a full-grown fœtal head, smooth, hard, and polished. The skin was free from redness; the fore-arm was flexed at an acute angle on the arm, and both were atrophied. None of the bony protuberances of the joint could be distinguished. Two scruples of the ioduret of potassium, in a quart of infusion of saponaria, were given daily for eight days, and the dose was then raised to four scruples for the next eight days, at the expiration of which time the tumour was lessened in size one-half. Eight scruples a-day were then ordered for a fortnight, and then the elbow had resumed its normal shape and size; the condyles could be distinctly felt in their proper situation, and the powers of flexion and extension were restored. The costal exostoses had also disappeared; the nocturnal pains had ceased from the fourth day. During the treatment the patient had a voracious appetite, some redness of the eyes, headache, and dryness of the throat, which were easily removed. This case occurred two years ago; there has not been any relapse, and the patient still enjoys excellent health. The second case is one of chronic syphilitic sore throat, involving all the soft parts; Dr. Langevin prescribed the ioduret internally in the dose of two scruples (afterwards raised to four) daily, an ioduret gargle, and an ointment containing a large proportion of the same salt, which he directed to be rubbed in night and morning over the right testicle, which was affected with sarcocele. The patient was perfectly cured in every respect in three weeks, and has not since suffered a relapse. The third case is one of extensive syphilitic ulceration of the elbow, cured in three weeks by the use of an ioduret wash, and the internal exhibition of large doses (from four to eight scruples) of the ioduret of potassium in an infusion of dulcamara. The fourth case presented exostoses of every articulation, besides a swelling on the anterior part of the coronal, and of the cervical vertebræ. The fifth was a case of syphilitic sore throat of some standing; and the last was an instance of ulcers on the legs depending on a venereal origin. In all these cases the large doses of the salt already alluded to were freely administered, and in every instance were followed by a rapid cure.

Poisoning by Squills.—A man, fifty-eight years of age, was afflicted with general dropsy from insufficient nourishment, anxiety and great fatigue, unattended by any symptoms of organic disease. From this he was relieved by the use of diuretics and bitters, but the complaint returning, he was induced to have recourse to an old woman, who promised to cure him effectually. In accordance with her directions, he procured some squill cut into small pieces, which he digested for forty-eight hours in nine ounces of white wine. Half this quantity he drank at once, and as it caused violent colic, he thought it necessary to assist its action by taking several spoonsful more, which produced an increase of the colic and severe nausea. These symptoms not having ceased for a moment, after the lapse of twenty-four hours he sent for medical advice; he had then a red and burning face, with cold hands and feet; pulse small and contracted, and the abdomen so tender to the touch, that he could not bear even the sheet over him. He died on the second day in spite of all that could be done for him. From the chemical analysis of the rest of the tincture, it appeared that he had taken altogether, five scruples of extract of squills.

Hemeralopia.—Night blindness, says Dr Forry, is eleven times more prevalent in the southern, than in the Northern divisions of America; in other parts of the United States it is almost unknown. In Florida it may be regarded as endemic. The pathology seems to exist in an exhaustion of the power of the retina, in consequence of exposure to strong light during the day; or in other words, vision ceases, because the retina, after having been exposed to a long and brilliant sunshine, is not excited by the feeble light which continues after sunset. The disease is consequently rarely met with, except in the southern latitudes, or those regions in which the ground is covered many months with snow. In Florida, as in the West Indies, the causes productive of it, are, the full glare of a vertical sun in an unclouded sky, and the reflection of the solar rays from the surface of water or from a sandy soil. Its duration in Florida varies from one night to six or twelve months, whilst relapses are frequent. The treatment which is modified in accordance with the accompanying functional derangement, usually consists in confinement to a dark room, the use of emetics and cathartics, and the application of cupping-glasses and blisters to the temples and nape of the neck; but these remedies, as well as salivation, prove in many cases wholly unavailing. When remedial measures fail in tropical regions among those from Northern latitudes, a return to one's native clime is obviously indicated.

Mercurial Frictions.—Mr. Toogood, of Bridgewater, gives three cases shewing the great benefit of mild mercurial frictions in eradicating those complicated symptoms, following at various intervals, venereal disease ill-treated. The success was marvellous in cases of great obstinacy.

Mortality.—The French papers have of late quoted from a work entitled "Les Centenaires," some astounding statements respecting the age attained by individuals in the different countries of Europe. Thus, we are told, that "There have died in England, in the course of the last century, 49 persons who have reached from 130 to 180 years of age! Of those, seven reached 134 years, four 138, two 146, four 155, one 158, one 160, one 68, one 169, and one 175." Now, we believe it to be beyond the power of the writer *to prove* any *one* of these assertions; to prove that any one man or woman, in England, ever attained the lowest of these ages, or 130 years. We do not, of course, mean when we speak of proof, the gossiping nonsense which passes current on such occasions, but such evidence as would be received as conclusive in a court of law; and surely in a country where every parish has its register, the age of a party is a fact very easy of proof. Some years since we were drawn into a controversy respecting the age of a man of the name of Patrick Gibson, of whom a portrait and a memoir were published, setting forth that he was in his 111th year. We proved to demonstration that every assertion from which his great age was to be inferred was false; yet since then, his portrait, with the falsehood deliberately written on the frame, has been placed in the Hall at Greenwich Hospital. Our incredulity on the subject of these Old Gibsons, Old Parrs, and Old Jenkins being known, we have on more than one occasion been sent by friends in search of cases, that admitted, they said of no doubt; but on enquiry, it turned out that instead of "no doubt" we should read "no proof." The parties indeed recollected, or rather professed to recollect, many circumstances which occurred more than a hundred years before, but in no instance could they recollect where we might procure a copy of their baptismal register. This question is not altogether one of mere idle curiosity; the length of time that men may live must affect questions of annuities insurance, and other like calculations; yet, though every season brings forth new insurance companies, new life tables, new expositions and illustrations of the subject, no writer, that we are aware of, has devoted a single chapter to a careful investigation of the age which men have attained.—*Athenæum.*

Microscopic Anatomy of the Brain.—Fontana discovered that the nervous fibres were tubular, the sheath consisting of a transparent membranous cylinder, and the contents, as he supposed, of a gelatinous and consistent humour. By more recent observation it has, however, been established that the nervous matter, or neurine,—which is during life fluid and transparent, the soft, solid, and opake character which it presents soon after death, being the result of coagulation,*—may be distinctly observed with the naked eye in the retina, which, if examined in an animal just killed, is seen to be, as it is in life, diaphanous, whilst in a few minutes it assumes that resemblance to ground-glass with which we are familiar. Professor Valentin, in a course of observations made upon the nerves of living animals, believes that he had detected on the inner aspect of the membranous tube of the nervous fibre a ciliary epithelium.† If this structure should be confirmed by a more extended observation, it would follow that

* This may be regarded as an established fact because it does not rest solely on microscopic examination for the change.

† This observation is, to a certain degree, corroborated by Remak, who has described the ciliary motion in nerves, but he places it in the sheath of the primitive bundle, or fasciculus, not, as Valentin describes it, within the sheath of the ultimate fibre itself.

some kind of motion or current of the nervous fluid is effected by ciliary motion.—Another step has lately been effected, by determining, with the aid of the microscope and minute injections, the disposition of the capillary blood-vessels in the grey matter. How entirely, says Mr. Granger, the prevailing notions respecting the brain would be changed, if, instead of regarding it as a solid body composed of soft fibres, amply, indeed, supplied with blood, but in a manner altogether unknown, we should consider the cerebrum as consisting essentially of an almost infinite multitude of tubuli filled with fluid. I say nothing of their supposed ciliary currents, penetrated by a vast number of arterial and venous canals, carrying, in a definite and ascertained direction, the circulating fluids. It is needless to point out the light which views like these would throw on the pathology of the brain, or to show how powerfully they would illustrate the important views of Dr. Abercromby respecting deranged conditions of the cerebral circulation. If caution is required in the case of the healthy organisation, it becomes much more so when diseased structures are concerned. The important discoveries respecting cells have undoubtedly afforded some facts which promise interesting results regarding morbid growths; for when it is known that a cell can, in virtue of its own independent endowments, take up, from a surrounding fluid, peculiar substances, and increase in the manner noticed, so as to give rise to the various organised tissues, woody fibre, bone, or muscle, we can at all events understand that, owing to some derangement of these processes, morbid matters may be produced or taken up, and abnormal cells generated; phenomena which, according to Müller and others, do take place in carcinomatous tumours, and in tubercle, according to Gulliver. It is also probable that the information we have acquired from the physiology of cells will ultimately tend to explain many of the apparently conflicting views of Hodgkin, Cruveilhier, Müller, and others, concerning the respective influence of the blood-vessels and cellular tissue in the production of cancerous growths; for, as there is such an analogy in the laws which govern the first formation of vegetables and animals, it is not unreasonable to suppose that, as in cryptogamic and vascular plants, growth may take place either by the action of cells alone, or by vessels and cells in conjunction; so in scirrhus, fungus, and colloid, the morbid growth may depend on the action and development of cells alone, or in combination with the capillary blood-vessels. It must, however, be confessed, that at present the microscopic investigations of disease have produced but few well-established and generally-recognised truths. Even in the case of morbid fluids where, *a priori*, we should have expected more satisfactory results, much uncertainty prevails; thus one of the most interesting circumstances to the medical practitioner, the unequivocal distinction, namely, between mucus and pus, is a desideratum yet to be obtained; for not only are there diverse discrepancies in the accounts given of the physical characters of the two fluids, by those who admit a distinction between them, but some eminent authorities, Henle, Barry, and Mandl, state that the globules of pus, and mucus cannot be distinguished from each other.

The Corda Tympani.—M. Guarini adopts the opinion that the corda tympani is not derived from the cranial branch of the vidian nerve, but takes its origin from the facial. He concludes, therefore, that it is, like the facial, a motor nerve. In the second place, he shows by dissection that the corda tympani is distributed principally to the fibres of the lingual muscle, and he thinks that it communicates a motor power to them. To verify this opinion, he performed experiments on animals; striking them on the head, and then quickly making a section of the tongue and the inferior maxillary bone in the mesial line. After waiting till the spasms which affected the muscles had ceased, he implanted one of the needles of a small galvanic pile in the anterior part of the tongue, and connected the other with the nerve whose function he desired to ascertain. He found that when the hypo-glossal nerve was galvanized, the tongue was moved forwards and backwards, upwards and downwards, with such rapidity, that the whole organ appeared convulsed. At the same time the muscular fibres in the centre of the tongue remained unmoved. When the needle was applied to the branch of the fifth pair of nerves no movements of the tongue ensued, nor when the glosso-pharyngeal nerve was touched. If the facial nerve was galvanized the tongue was carried upwards and backwards, then downwards, then again upwards, at the same time undergoing a sort of vermicular movement from the action of the lingualis muscle; the movement upwards and backwards being due to the contraction of the stylo-glossus, the upper part of which receives branches from the facial nerve by means of the corda tympani. These experiments were repeated several times with perfect success by M. Guarini, in the presence of his colleagues. It being doubtful how far the vermicular motion of the tongue might be attributed to the action of the stylo-glossi muscles, these muscles, together with the stylo-pharyngæi and digastrici, and the hypoglossal nerves, were divided, the head having been separated from the body, and the corda tympani and lingualis muscles left entire. The facial nerve being then galvanized, the tongue was no longer carried backwards, but the vermicular movement continued unimpaired. The physiological conclusions which the author draws from these experiments are, that the hypoglossal is not the only motor nerve of the tongue, and he considers that by its influence upon the lingualis muscle the corda tympani is subservient to the articulation of sound.

Creosote in Sea-sickness.—A gentleman, a great martyr to sea-sickness, had been advised to take the creosote mixture; but it had had an effect directly the opposite of what was intended. On the first dose he was seized with retching. Upon the following day the gentleman became exceedingly sick. He applied again to the reputed specific, when the very same dose that had on the previous day made him squeamish, on this trial almost entirely relieved him. *It is worthy of remark* (says Dr. Cormack, who relates this incident) *that creosote, though excellent in allaying vomiting, often excites it when it does not exist.* Vomiting is caused by creosote very frequently where the dose is too large.

Remarkable Case of Ascites.—A woman, aged 36, was attacked in 1823, by a chronic entero-mesenteritis, accompanied by marasmus, suppression of urine, and irregular menstruation. By degrees the abdomen became of enormous size, from the presence of fluid accumulated in the cavity of the peritoneum. The first tapping gave issue to twenty pounds of a lemon-coloured limpid fluid, and M. Lecanus ascertained, after the sinking of the abdomen, that it contained enormous indurations. Ten days afterwards she was again tapped, and so rapidly did the fluid accumulate, that it was necessary to repeat the operation every six, eight, ten, or at the utmost twelve, days. Fifteen years had elapsed in this manner, and tapping had been performed 810 times, when Dr. Lecanus thought of trying compression on the abdomen with pieces of paste-board covered with linen. This remedy employed gradually, at first retarded the accumulation of the fluid; and at the end of six months, during which tapping was practised at more or less distant intervals, it was perceived that the ascites no longer returned. The patient has now been cured these two years, having undergone tapping 866 times during 15 or 16 years. Once only the epigastric artery was opened; but the hæmorrhage was promptly arrested by tents steeped in a styptic liquid, and introduced into the wound made by the trocar.

Treatment of Fractures.—Mr. Grantham, of Crayford, publishes some sagacious observations on this subject. He would keep up the action and temperature of the cutaneous structure, by the use of hot, stimulating applications, which tend to lessen the pain, and quicken the reparative action of the parts, and would forbid the application of cold to the diminution of power produced by local bleeding near the injured part. "We must consider," he says, "the lowly organized state of these structures, which are only balanced or supported in their normal action or temperature by the power of the exhalent vessels of the skin. Did these lower structures but contain one drachm of blood more than in their normal condition, the result would be inflammation, which would require three months at least to effect a termination by resolution. It is a fact, that excitement of the arteries in the vicinity of an injury, assists much in the restoration of a sanative action. Only diminish the power of the arteries and exhalents below the natural standard in such injuries, and you deprive the limb of the means of repairing the mischief, and too frequently bring on phlegmonous inflammation or sphacelus."—Mr. G. adds, as a suggestion, that Galvanism applied moderately, and with the foot or head immersed in hot water, would be useful in regaining the use of the suspended power of a limb.

Odd Midwifery Case.—Mr. Bell, of Burrhead, recently delivering a strong healthy woman of a large female child, had occasion to extract the placenta, in doing which his fingers were severely pricked. On examining the placenta, he found a number of small sharp points attached to it. On more minute examination, its uterine surface was found to be covered with a milky-coloured membrane, which was thickly studded with small points of bone, as sharp as pins, about one-eighth of an inch in length, and about the thickness of a fine sewing-needle. On examining the substance of the placenta, it was found completely filled with these points, but they were of a much larger size, some rather more than two inches long; they were running in every direction, ramifying not unlike the air-tubes in the lungs. The umbilical veins presented nothing unnatural; but the artery, at its termination, was partially ossified. No hæmorrhage, but severe after-pains.

Empyema.—M. Faure wishes to show that in most cases of purulent effusion into the thoracic cavity, paracentesis thoracis is the only means we have of rescuing the patient from almost certain death, and that the operation has been too much neglected.—He asserts that puncture of the chest with a trocar does not expose the patient to the danger of air being introduced into the pleura, and that the wound often closes in forty-eight hours,—that 200 persons die annually, whose lives might be

prolonged or saved, and relates the cases of three soldiers on whom he operated in April and May last. They had been reduced to a very dangerous state by the effusion. One died a few days after the operation, but the other two were still alive, when last heard of on the 31st of July.

Structure of the Lung.—M. Bourgery, writing on the relation between the structure of the lung and its functional capacity in both sexes and at different periods of life, gives the measurements of the minute pulmonary apparatus in the adult; and then passes to the microscopic examination of its texture at different periods of life. He shows that the development of the aerial and sanguineous capacities of the pulmonary apparatus is much influenced by age, appearing to be in inverse proportion at the two extremes of life. In infancy the vasculatory and aerial capacity of the lung are very great, and this perhaps, may occasion the extreme plasticity of the blood at this period. The great energy of the respiration, arising from the full but equal development of the sanguineous and aerial systems, is characteristic of adolescence, and manifests itself by the rich qualities of the blood peculiar to puberty. In the adult the respiratory apparatus remains stationary for some time, but as years go on, the air-cells partially give way and the blood-vessels become obliterated, and old age ensues with its feeble and impoverished circulation. From these facts the author thinks that, in a general point of view, man at his different periods of life presents an analogy to the two classes of vertebrate animals in which the extremes of the respiratory functions are observed. As he approaches towards puberty the lung is gradually developed, and offering every year larger and larger surfaces to the air, gives rise to a function similar to that of the bird. In old age, on the contrary, the lung is gradually broken up into air cavities of increasing magnitude, while the circulation is diminished in the same proportion; and thus the respiration, both in its real capacity and in the structural changes of the organ effecting it, assumes the characters peculiar to reptiles.

Detection of Albumen in Urine.—The solubility of albumen in nitric acid, as a source of fallacy in detecting albuminous urine, has, I think, says Dr. J. W. Griffith, been entirely overlooked by writers on urine. The ordinary method of proceeding is to heat the urine to the boiling point, and then to add a few drops of nitric acid, when, if the precipitate be redissolved, albumen is considered absent; if otherwise, it is regarded as present. When the urine contains albumen in large quantity, the appearances produced by its coagulation are so characteristic that they cannot be mistaken; it is only where there is a moderate or small quantity present that any error can be made. The strong acid being generally used, I shall confine my observations to it.—When a few drops of nitric acid* are added to urine† containing a small quantity of albumen, a cloud is immediately formed, which, by agitation, is entirely redissolved: so, after heat, a drop or two of acid added and the fluid agitated, the albuminous cloud disappears; a few drops more added, throw it down again; and a further considerable excess redissolves it. Therefore, the formation of a cloud by heat, which is soluble in a drop or two of nitric acid is no proof that albumen is absent. The value of the nitric acid test depends entirely upon the proportion added. The mere adding a few drops is not sufficient, moderate excess ought to be used. The quantity of acid required for the above-mentioned second solution is, on an average, at least as much as the bulk of the urine used; so that by always using considerably less than its bulk, this chance of error may be avoided. The cloud of phosphates precipitated by heat is very readily dissolved in a small quantity of acid; and by adding a few drops more it is not again precipitated. This then, would readily distinguish the phosphates from albumen.

* Specific gravity, 1·5.

† I suppose the operator to be using about six drachms of urine.

MEETINGS FOR THE ENSUING WEEK.

Octr.	31, Monday,	Medical Societies of London, 8 P.M.
Nov.	2, Wednesday,	Westminster Hospital Medical Society, 8 P.M.
	3, Thursday,	Zoological Society, 3 P.M.
		King's College Hospital Society, 8 P.M.
	5, Saturday,	Mathematical Society, 8 P.M.

MEDICAL NEWS.

London Royal Infirmary for Children.—A vacancy has occurred in the physicianship of this institution by the retirement of Dr. Willis.

French.—A most satisfactory decision has been recently adopted by the administration of hospitals in France, with regard to the treatment of idiotic children. Our readers may, perhaps, remember that M. Seguin, a young philanthropist, who devotes himself to the education and instruction of idiotic infants had proposed to submit to his method a certain number of individuals taken out of the asylums. The administration of hospitals on the report of M. Orfila, acceded to his demand. Twelve children were entrusted to him from 8 to 16 years of age, taken from the hospital of *Incurables*, and who were considered to be in a state of hopeless idiotcy. None of them could read or write, several had with difficulty accustomed themselves to use a few words, while the others emitted only inarticulate sounds; some were epileptic, and three or four were subject to constant convulsive movements. After a twelvemonth's treatment, M. Seguin has presented these children to a commission, composed of MM. Fouché, Halpher, and Orfila. These gentlemen have become satisfied that all these children are now able to read, and some of them can write from copy; that almost all speak distinctly, and that they answer correctly to the questions put; some can perform addition, substraction, and even multiplication. They have also become physically improved; so that these children who were but an encumbrance to the house, are now capable of great service. The administration considering these results, has decided that M. Seguin, who hitherto had been authorized merely to make trials, should have an express authority for continuing them upon a larger scale, and should, for this purpose be lodged, boarded, and remunerated. A special allowance will be demanded for this object by the general administration of this department. We hail with pleasure the commencement of an undertaking of such vast interest.

The Prefect of Police of Paris has lately issued a new ordinance, dated the 15th of Sept. for the regulation of knackers. They are in future to have closed carts, so as not to allow their contents to be seen; these vehicles are, moreover, to be so constructed as not to allow the escape of any liquid. Animals destined for the knacker are not to be allowed to enter Paris. No animal is to be slaughtered within the city. The knackers are all to live outside the barriers. All animals dying in the capital are to be removed during the night, between the hour of midnight and six in the morning. Animals known to be affected with contagious diseases, are not, under any pretext, to be stationed within the city. Lastly, upon any requisition, the knackers are bound to remove dead animals, in conformity with the preceding regulations.

The same magistrate has also issued another order which essentially concerns the proprietors of hotels, the chiefs of establishments, shopkeepers, &c. who employ gas in lighting their houses. This order points out the care and precaution to be used with gas fittings, so as to guard against accidents. It especially directs the careful ventilation of places in which gas is burned, the employment of stop-cocks which shut with precision, and which should be frequently oiled; besides these stop-cock at each burner, it enjoins a principal cock which is to be turned off as soon as the lights are put out. Immediately that a smell of gas is perceived in an apartment, the doors and windows are to be thrown open, and notice directly given to the gas-fitter belonging to the company. Lastly, when an escape of gas becomes ignited, they are to endeavour to extinguish it by wetting a cloth, and quickly applying it upon the inflamed jet. That nobody using gas should forget these directions, the various companies are ordered to have them printed at the back of their monthly receipts.

St. Thomas' Hospital.—On Friday evening, the 21st inst., the first microscopic entertainment for the session was given at the great hall of the hospital. The business of the evening was opened by an address from Mr. Grainger, by whom the chair of physiology in this school is now filled, on the state, and amount of our present knowledge, as developed and established by microscopic research. A summary survey was taken of the more important and recent contributions, with which the German observers had enriched the science of organization. Those of Schleiden and Schwann on the relations of the cytoblasts and cells in the production of all forms and variety of organic structure, and the remarkable identity which their labours have proved to exist between the laws which regulate these primordial forms of living matter in the animal and vegetable kingdom—were introduced as the highest in value of any with which the domain of physiology had been evidenced in modern times. In connection with the subject of nucleated cells, Mr. Grainger passed a high eulogium upon the investigations of Dr. M. Barry into the occult and early changes which mark the commencing development of the new being. It was proved by his labours that the first discoverable step in this process, consists in the formation of a nucleated cell, or cells, which correspond in character with those which the German observers have shewn to constitute really the origin of all forms of structure. The interesting subject of the several phases which the spiral variety of vascular tissue was capable of assuming, were most lucidly explained by the assistance of diagrams. He alluded particularly to the fact that the annulated, the dotted, the pitted ducts observed so abundantly in vegetable tissue, were traceable to the spiral form as a common origin. It was shewn also that it was quite philosophical to admit great analogy as regards the plan and process of formation, between these spiral structures of vegetables and the tracheary apparatus of insects, birds, and mammalia. The last subject noticed was that which by far excited the greatest curiosity and interest; it related to the minute structure of the muscular fibre of voluntary motion. A clear and simple exposition of the prevalent and conflicting views was given—of that first entertained by Mr. Bowman, which supposes the primitive fibres, to be made upon flattened cells, or discs,

placed in contact upon their flat surfaces, or that, secondly, maintained by Dr. Martin Barry and Dr. Leeson, according to which it was conceived that the same primitive filament was composed of a double spiral. He remarked that this formation had been fully made out by Dr. Leeson, six months before the observations of Dr. Barry. He did not attempt to decide on the merits of these two views—stating from the evidence of Dr. Leeson's preparations more particularly, that there could be no doubt as to the *existence* of the double spiral in the filament, whatever its nature may be. In the theatre of the hospital, the phenomena of polarisation were beautifully exhibited by Dr. Leeson, by means of the oxygen-hydrogen-microscope. In addition to a great variety of other highly-interesting objects, we observed it as a pleasing triumph to microscopic science, that the long table of the hall was crowded with lamps and the most valuable microscopes, giving to the room a very brilliant and imposing effect.

Among the company present, which consisted of nearly six hundred persons, comprising many German and metropolitan professors and men of science—were:—R. H. Pigeon, Esq., Treasurer of Christ's Hospital; James Bentley, Esq., Treasurer of St. Bartholomew's; the Prince of the Druses, Beyrout, Antonius G. Aumrie, Beyrout; Le Capitane Nagy de Golantha; Professor Mitcherlitch, Berlin; Professer Capari; Dr. Dieffenbach; M. le de Stoll; Sir George Lefevre; M. Williams, Esq., M.P.; Professor Brand; Professor Cooper, — and many other distinguished men. The company did not separate until a late hour. Tea and coffee were liberally provided in the committee-room, adjoining the great hall.

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By CHARLES CLAY, Member of the Royal College of Physicians, London; of the College of Surgeons, Edinburgh; and Lecturer on Medical Jurisprudence, &c. Piccadilly, Manchester.

(Continued from page 62.)

CASE THE SECOND.

OVARIAN EXTIRPATION BY THE LARGE INCISION.

Elizabeth Beswick, æt. 57, applied to me on the 27th of Sept., 1842, in consequence of the abdomen being enlarged by dropsy. I performed paracentesis abdominis on the 30th of Sept., when twenty-five and a-half pounds of fluid were taken away, of a true ascitic character; and it was not till the fluid was discharged, or nearly so, that I discovered in the left iliac region an ovarian tumour about four pounds weight. I was the more surprised at this, as neither the history of the case, nor its appearance before tapping, led me to expect it. The tumour, as well as the fluid deposited, had both been produced within the last ten months; previous to that, no tumour existed that she knew of. She had suffered much from inconvenience, and occasionally from pains about the umbilicus. She had borne nine living children, and does not recollect receiving any injury by blows, falls, &c.; her health had generally been good; she was low in stature, and much emaciated within the last six or eight months. The tumour occupied the left iliac region, and as the abdominal parietes were very flaccid after the water had been drawn off, its character was distinctly visible:—it appeared circular, rather flattened, with a long pedicle, and, though moveable, the parietes in front below the umbilicus were firmly attached to it for the space of two square inches (an adhesion of some standing.) The tumour felt hard and heavy for its size, consequently, I concluded it to be a solid mass, or nearly so; this probable solidity, and its firm adhesion, at once convinced me that it would be impracticable to extirpate it by any other mode than the large incision. In order to allow the wound caused by tapping to heal, I fixed on Friday the 7th of October, at half-past three, P.M., for the operation; the preparations for which were conducted much in the same way as in the case of Mrs. Wheeler, and therefore need no repetition.

On the evening of the 6th I gave her ten grains of the inspissated ox gall, which brought away a copious motion before bed-time without any uneasiness. Five grains more were given early in the morning of the 7th, and another motion was had before noon, with a free and copious passing of urine. She again passed her urine freely, immediately before the operation.

On the afternoon of the 7th, I commenced the operation in the presence of Dr. Radford, Mr. W. C. Vaudrey, Messrs. J. J. & G. Southam, surgeons, and Mr. Higginbottom, nephew to Dr. Radford.—Pulse, before the operation, 70.

OPERATION.

As paracentesis abdominis had been previously performed, and the tumour was of smaller dimensions than Mrs. Wheeler's, the first incision extended from about two inches above the umbilicus to the pubes, or nearly ten inches in length. The parietes of the abdomen were so flaccid that more difficulty occurred in making the first incision, and in dissecting through the peritoneum, than in the first case, where the same were distended. No sooner was the tumour exposed than adhesions presented themselves in every direction. In the diagnosis which Dr. Radford and myself had formed of the case, I fully expected an extensive and long standing adhesion to the anterior of the tumour, immediately in the vicinity of the umbilicus; but from the mobility of the tumour in every direction, (save the exception mentioned,) we thought it pretty free elsewhere. In this we were deceived: adhesions were found in almost every part remarkably strong, and only to be separated with the scalpel. There was also a decided difference in the character of the adhesions: those attached to the parietes were broad and firm in their attachments, whilst the connection with the viscera was by numerous long fibrous bands; it was evidently their length and adhesion to the moveable parts that gave the tumour the mobile character it had. The pedicle, too, being long (as I had anticipated) facilitated the movements of the tumour; the pedicle was broader and thicker than in Wheeler's case, and when cut through, one of the cysts discharged about four pints of fluid. In this instance I passed a strong double ligature through the central expansion of the pedicle, and tied it both ways; thus securing it by two ligatures, which appeared to be quite sufficient to secure the vessels of the pedicle from pouring out blood, as they did in Wheeler's case, were they had to be separately tied. The adhesions were overcome by the scalpel, and their number was more than expected. The whole blood lost in the operation was trifling,—certainly not more than two ounces. The uterus (with the rest of the viscera) was perfectly healthy; the intestines not in the least distended, with either flatus or fœcal matter, and in no way impeded the operation—a circumstance which I again attributed to the effects of the inspissated ox gall, which she had taken the night before. The parietes were secured by seven interrupted sutures, with straps of adhesive plaister between, side straps, with pads of linen, and bandages over the whole. My patient was quite equal to the task she had undertaken: scarcely a word fell from her lips indicative of pain,—on the contrary, she replied to any question with great composure, and drew comparisons between the sufferings of parturient efforts and the operation,—concluding that she had had worse labours, as to suffering pain, than the present operation. After the operation she complained of pain in the left iliac region and the loins, evidently owing to the stretching of the adhesions, but more particularly the pedicle. The whole time consumed in the operation was about ten minutes, and in about twenty-five minutes from the commencement she was placed comfortably in bed; and, what was most extraordinary, the pulse had scarcely varied a single stroke from what it had been for the last two days. I gave her a draught with three-fourths of a grain of mur: morphine, with one ounce of camphor water, and left her very composed, if not really cheerful. Before I proceed with the details of the case, I will briefly describe the tumour itself, as some very important circumstances are connected with it.

DESCRIPTION OF THE TUMOUR.

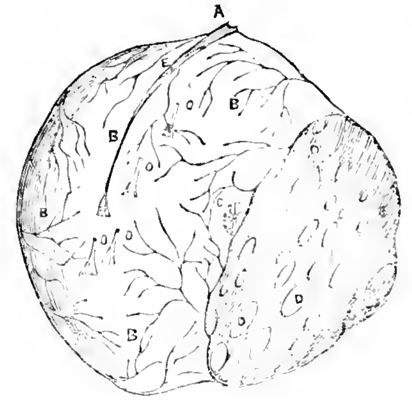
It will be recollected that paracentesis abdominis had been performed in this case, previously, and the amount of twenty-five pounds-and-a-half of fluid of the true ascitic character had been drawn off, and it became of importance to know of a certainty if this fluid was really ascitic or had been contained in the ovarian sac. The form of the tumour was an oblate spheroid, and when perfectly emptied of its contents the solid part weighed very nearly five pounds; it was composed of a white tough membranous bag, capable of holding about four pints, and a flattened round solid mass, the cells of which contained various matters from the consistence of pus to that of cerate, and of considerable variety in colour. The interstices of the cells were of a hard cartilaginous structure. Inside the large membranous bag, hung from its under surface a pendulous mass, with a narrow neck, about the size of a hen's egg, or rather larger, and of an irregular shape, very similar to a portion of brain enclosed in a thin transparent membrane, which must have floated loosely in the fluid of the sac. The tumour with the membranous bag had very much the appearance of a large placenta with its membranes nearly entire, and its form and arrangement exactly similar. On examining the membranous pouch very carefully, I could find no puncture but the one by which the sac had been emptied at the pedicle; and as its capacity was not more than for four or five pints of fluid, this together with the apparently thick unyielding character of the walls of the sac, convinced me that it had never held more than from four to five pints; consequently, the twenty-five pounds and-a-half of fluid previously discharged were decidedly that of ascites, in no way connected with the cyst, but produced by its pressure. The connection of the tumour anteriorly with the parietes was to a considerable extent, and remarkably firm, completely surrounding the umbilicus, including the remains of the umbilical chord; in cutting through it, the part was hard, as a piece of cartilage, and not easily divided; the fibrous bands, connecting the tumour, with the omentum, intestines, &c., were in many places two inches in length, and very strong, (no doubt of long standing); they were arranged in groups of three or four together, most of them about the thickness of thread, but one or two were broad and flat like narrow tapes. The solid portion (as well as the membranous cyst of the tumour) was beautifully injected with blood vessels, both internally and externally. As the contents of the sac were discharged at the conclusion of the operation, I had not an opportunity of ascertaining its peculiarities;

RECORD OF FIFTY-TWO HOURS AFTER OPERATION ON ELIZABETH BESWICK.

Operation, 4 o'Clock p.m. Oct. 7th, 1842. Friday.	8 o'Clock p.m.	11 o'clock p.m.—7 hours after operation.	5 o'clock a.m. Oct. 8th. 13 hours after.	11 o'clock a.m. 19 hours after.	4 o'clock p.m. 24 hours after.	10 o'clock p.m. 30 hours after.	5 o'clock a.m.—Oct. 9th 37 hours after.	10 o'clock, a.m. 24 hours after.	8 o'clock p.m. 52 hours after.
Temperature..	68	70	70	68	70	70	70	70	70
Pulse	76	80 Soft.	80 Soft.	8 Soft.	80 Soft.	80 Soft.	86 Soft.	86 Soft.	90 Soft.
Tongue	Clean and moist.	Clean and moist.	Clean and moist.	Clean and moist.	Clean and moist.	Clean and moist.	Clean and moist.	Clean and moist.	Little furred.
General Surface	Moist and warm.	Moist and warm.	Moist and warm.	Moist and warm.	Moist and warm.	Moist and warm.	Moist and warm.	Moist and warm.	Moist and warm.
Pain	None.	None.	None.	None.	None.	None.	None.	None.	None.
Light headedness......	None.	None.	None.	None.	None.	None.	None.	None.	None.
Cough	None.	None.	None.	None.	None.	None.	None.	None.	None.
Shivering....	None.	None.	None.	None.	None.	None.	None.	None.	None.
Urine	None.	None.	Twice, naturally ℥xiv.	Twice, naturally ℥xvi.	Once, naturally ℥x.	Twice, naturally ℥xx.	3 Times, naturally ℥xxii.	Twice, naturally. ℥xii.	Twice, naturally. ℥xii.
Motions	None.	None.	None.	None.		None.	None.	None.	None.
Thirst	None.	None.	None.	None.	None.	None.	None.	None.	Little.
Flatus	None.	None.	None.	None.	None.	Little.	None.	None.	Little.
Respiration..	Free.	ee.	Free.	Free.	Free.	Free.	Free.	Free.	Free.
Sleep	20 min.	45 min.	3½ hours.	1½ hour.	1½ hour.	2 hours.	3½ hours.	2 hours.	2 hours.
Cold........	None.	None.	None.	None.	None.	None.	None.	None.	None.
General Remarks. *The diet is to be understood as the same as in Mrs. Wheeler's case.*	There had not been the slightest coldness, or shivering.—The pain had left the loins and iliac regions.—Had slept soundly 20 minutes, and smoked a pipe of tobacco.—Pulse had risen.	Had had three sleeps, amounting to 45 minutes.—Pulse soft and compressible.—Felt as though she could pass her water naturally.	Her sleeps had been very sound.—Passed her water with great ease.—Pulse remained soft.—Took the panada and gruel well, and had smoked another pipe of tobacco.	Pulse very soft and compressible.—Has taken her diet freely.—Enjoyed her pipe, and felt perfectly free from pain.—Simple diet continued.	Expressed herself very comfortable.—Felt as though she would have a motion, and complained of being hungry.—No alteration in the diet.	For the first time felt a sensation of wind in the bowels.—In every other respect well.—Diet continued.—Gave her 10 grains of Inspissated Gall at bed-time.	Passed a very comfortable night.—Flatus not been felt since last night.—Diet continued.	Continues well.—Diet continued.	The tongue, for the first time, a little furred, accompanied with a little thirst and flatus.—Gave her five grains of Inspissated Gall.

The gross amount of matter removed was: ascitic fluid, 25½ lbs.—contents of cyst, 4 lbs.—cyst and solid substance, 5 lbs.—total, 34½ lbs.

SUMMARY OF THE FIRST FIFTY-TWO HOURS



AFTER OPERATION.

Before this, my second operation, I had concluded it scarcely possible that any case of such importance and peculiar liabilities could have progressed more favourably than in the case of Mrs. Wheeler; but, certainly, the present as far exceeded the first case, in the rapid progress of its recovery, as it did in having worse prospects to contend with in the beginning. The patient was older by many years, the system equally worn down, numerous adhesions of a very firm nature to overcome, together with an extensive ascitic deposit,—and yet it is impossible to look at the above tabulated 52 hours without surprise, when all these circumstances are considered.

The Temperature was kept nearly the same throughout, as in the first case, but in accomplishing this, fires had to be occasionally made as the weather was colder.

Pulse.—Before the operation the pulse stood at 70. After the operation it was counted by Dr. Radford, and found to be the same; a circumstance very remarkable, and only to be accounted for by the small quantity of blood lost during the operation, and the imperturbable coolness of my patient, who neither moved a muscle, nor expressed herself in the least as suffering from pain. During the fifty two hours it will be observed it advanced to 90, but always remained soft, and easily compressible, bleeding therefore was not resorted to, which, in consequence of her age, I was not sorry for.

Tongue.—During the time was clean and moist, except at the last visit on the table, when it showed itself slightly furred, probably owing to the bowels not being yet moved.

General Surface.—Was never otherwise than warm and moist, with gentle perspiration.

Pain.—For about half an hour the pain in the left iliac region continued, and also in the loins, but on giving three-fourths of a grain of mur. morphine it disappeared, and did not occur again.

Light Headedness.—Never occurred.

Cough.—There was not any.

Shivering.—None.

Urine. It was surprising how easily she passed urine by her own efforts, so early after the operation, and continued to do so throughout, amounting nearly to seven pounds in 52 hours; the catheter was, therefore, uncalled for.

Motions.—As yet none, but as flatus had troubled her a little towards the conclusion of the above table, a motion was expected.

Flatus.—Throughout was too trifling to dwell upon.

Respiration.—Never in the least disturbed.

Cold.—This sensation was never experienced even in the least degree.

Sleep.—The pain in the loins and left iliac region, rendered it necessary immediately after the operation to give three fourths of a grain of the mur. morphine The pain soon left and a sound sleep followed. The number of separate sleeps, their length, and soundness, amounting to upwards of seventeen hours in the fifty-two, no doubt facilitated much, her rapid and satisfactory recovery.

In the next table I shall dispense with those items of the last table which did not occur again, as pain, light-headedness, cough, shivering, flatus, respiration, cold.

All my medical friends who visited the case, were surprised at the progress of recovery, and the perfect absence of dangerous symptoms. The next table traces the case up to the first dressing of the wound on the fourth day.

GENERAL REMARKS.	Flatus	Sleep	Thirst	Motions . . .	Urine	General Surface . . .	Tongue . . .	Pulse	Temperature.	FROM THE CONCLUSION OF THE 1ST 52 HOURS, TO THE END OF THE 4TH DAY AND 1ST DRESSING.
Felt a little smarting and itching in the line of the wound—felt very hungry—diet continued.	None.	5 hours.	None.	None.	3 times ℥ii ℥xviij.	Moist & Warm.	Little furred.	90 Very soft	69	5 o'clock, a.m., Oct. 10th — 61 hours after operation.
Continued remarkably well—ordered a clyster of gruel, with olei ricini. olei terebinth, ā ā ℥ss, to be repeated if necessary.	None.	30 minutes.	None.	None.	Twice ℥xii.	Moist and warm.	Little furred.	90 Very soft.	68	12 a.m.—68 hours after.
Two copious motions followed the clysters—felt very hungry—no alteration in diet.	None.	12 hours	None.	2 after clyster.	3 times ℥ii ℥xviij.	Moist & warm.	Clean & moist.	90 Very soft	68	10 p.m.—78 hours after.
Had passed a very comfortable night—ordered a little weak mutton broth for dinner—diet, in other respects, as before.	None.	6 hours.	None.	None.	Twice ℥xii.	Moist and warm.	Clean and moist.	100 soft.	68	9 a.m., Oct. 11th—89 hours after.
Dressed the wound, removed every other suture—woundhealed its whole length except where the ligatures came out.	None.	None.	None.	None.	Twice ℥xii.	Moist and warm.	Clean and moist.	105 soft	68	12 a.m.—92 hours after.
The pulse, though high, was very soft, no pain or uneasiness—former diet continued without the broth.	None.	None.	None.	None.	Once ℥vi.	Moist & warm.	Clean & moist.	110 Very soft	68	5 p.m.—97 hours after.

(To be continued.

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

Delivered by C. J. B. WILLIAMS, M.D., F.R.S., Professor of the Practice of Medicine, and of Clinical Medicine, at University College.

GENTLEMEN,—Lymph is very rarely thrown out upon mucous surfaces; pus is the secretion to which inflammation renders them peculiarly liable. It is on serous membranes that lymph is usually deposited, and although pus is sometimes found also on them, yet its occurrence is far less common than on mucous membranes. When lymph is of a *low* character, it bears a strong resemblance to *pus*, and is indeed, often a concomitant production. In these cases, the secretion is liquid, and presents a greenish appearance; it is called *purulent lymph*. The great facility with which pus is formed upon mucous surfaces, would lead us to expect that there must be considerable analogy between pus and the ordinary mucus that lubricates the mucous membrane; and this appears to be the fact, for it is in many instances, most difficult, and I may say impossible to distinguish clearly the two products. The former, viz. pus, passes gradually into mucus, which may indeed, be obtained from pus, by the addition of salt, an alkali, and some carbonic acid. Both are modifications of albuminous matter, and both contain a certain amount of fat. It is easy to discriminate between pus and mucus when in a *pure* state, the former being free from all viscidity, and readily miscible in water, while the latter is remarkable for viscidity and for its *not* being miscible with water. Pus is often found to be thrown out upon serous membranes when air has gained access to their cavities. The formation of pus frequently depends upon what is called the purulent *diathesis*. Many persons are accustomed to associate invariably with the existence of pus, a greater or less degree of *destruction* of parts; but this is an error, because pus may undoubtedly proceed from an *entire* surface without any *destruction* occurring. It is on this account very important to guard against concluding, that the lungs must necessarily be diseased because the sputa may contain traces of purulent secretion.

It was found by Hunter, that when pieces of flesh were placed in pus they became dissolved. It was concluded from this fact, that pus possesses a powerful solvent property; and that it consists, in fact, of portions of dissolved tissues, which it converts into itself; but the solution has been greatly exaggerated. Pus is *not* formed by conversion into itself, for it may, as I just stated, be effused from *entire* surfaces; it is in reality, a modified *secretion*. There is beyond all question frequently increased absorption, and removal of tissues adjoining the locality of pus; but then, this can be accounted for on other grounds than the solvent properties of pus itself, for example, *pressure* upon the surrounding parts giving rise to defective circulation, would be sufficient reason why cohesion should be diminished and the absorbent action be augmented. Sometimes the diminished cohesion precedes the formation of pus, and sometimes occurs alone, thus causing softening. Absorption on the surfaces of the body would be called ulceration. Ulceration signifies the removal of textures; and suppuration signifies the formation of pus. This formation takes place chiefly in the arterial portion of the capillaries; it is here also that granulations are formed and lymph is effused. The process of suppuration taking place in closed parts constitutes, as you know, abscess. Anything tending to localize inflammation, such as the application of foreign bodies, &c., tends to produce suppuration. Some have supposed that pus is formed in the blood, and escapes through the parietes of the vessels. I have never been able to detect this transition, nor do I think it at all reasonable. The greater the complexity of a mucous membrane, the greater as a general rule is its tendency to become softened.

Another phenomenon of inflammation is increased *heat*. It is well known that inflamed parts feel *hotter* than parts in their natural condition; this change of temperature is manifest, both to the sensation of the patient, as well as to the hand of the attendant. The question will arise, whether the increased heat is due to the greater quantity of blood determined to the part, or whether it is owing to some change effected in the blood itself? Erysipelatous limbs sometimes rise in temperature to 105 deg. Sometimes in inflammation, injury is done to the vessels permanently, and death of the tissues is produced, constituting *gangrene*. This state may arise,—1st. From destruction of the vessels, as by extreme cold—2d. From *pressure* by effused matter or other circumstances, as in Hernia and intussusception—3d. A depressed state of the circulation may cause gangrene, as where blisters have been applied in low fevers, especially when situated at a great distance from the heart. It may also arise where acupunctures have been used in cases of dropsy—4th. Obstructed arteries as from ossific deposit in their coats may cause gangrene. They may for a long time support the parts under ordinary circumstances, but if any state should arise requiring reaction for which determination of blood is necessary, it is clear that if the obstruction be so great as to prevent such determination taking place, the part will be unable to resist, and as a consequence, must die.—5th. Another cause of gangrene is congestion. This is proved by the sloughing of the back that so frequently occurs in long illnesses, where the recumbent posture has to be maintained.—6th. Local causes may also give rise to gangrene, as poison of serpents, punctured wounds, &c. But a part may die without actually becoming gangrenous. As soon as vitality is degraded by impeded circulation, the parts are acted upon by the vessels and removed. They cannot resist the absorbent action; there may, in this case, be no gangrene, but simply softening and removal.

Again, if the part dead is of small size there may be ulceration of such dead part *itself*; but if the part be of a large size, the ulcerative process takes place round the *edges* of the mass, and it becomes separated from the surrounding portions as a *slough*. Still there is no *gangrene* necessary; *it* implies *decomposition* and *putridity*. But if the mass is too large, and is not separated rapidly, it becomes decomposed and gangrene results; this change is greatly hastened by heat, moisture, and exposure to the air. The death of a part thus existing may be productive of most serious constitutional mischief, by the absorption of the decomposed and putrid matter by the surrounding vessels; this will give rise to the supervention of typhoid symptoms. If the system is strong the surrounding vessels become the seat of inflammation, attended by the effusion of lymph, which stops the progress of the injury, and thus a line of demarcation is established; the lymph thus effused blocks up the vessels, so that the communication between the part decomposing and the rest of the system is effectually interrupted. When a portion has become completely dead it is said to be sphacelated, and in this condition the blood therein contained is changed to a *black* colour. The chief characteristic of gangrene is the fetid exhalation.

The principal mischief attending inflammation appears to consist in the throwing out of nutritive matter in the wrong places, or in greater abundance than nature requires. I have now pointed out to you the leading facts with regard to the nature and local consequences of inflammation, and we shall proceed to notice some other circumstances connected with it in relation to its influence upon the system generally.

The *causes* of inflammation are mechanical, chemical, and vital irritants; these may be called *local* causes. An example is found in the case of a calculus in the kidney, which by the local irritation may give rise to the occurrence of inflammation. Again, an obstruction existing in the alimentary canal may, by the local injury effected, cause the supervention of inflammatory action. It usually happens that the local results are in proportion to the local causes; thus the *size* of the calculus and the *amount* of obstruction would materially influence the degree of the inflammation produced. When a local irritant has been operating for some time, the action of the heart

becomes excited in frequency and force, and this organ then reacts, and especially upon the part that is the seat of the inflammation—the circulation through the whole body becomes considerably augmented. It will be asked how the irritation is communicated to the heart? We must attribute its increased activity partly to its reaction after a state of collapse, and partly to irritation transmitted through the medium of the nerves. In persons of nervous temperament this action is observed to be strongest. But inflammation may be produced by other causes than those that are strictly local,—it may arise from *constitutional* causes. External cold and heat produce internal inflammation, by producing great constitutional disturbance, out of which arises the local mischief. The first symptoms that occur will probably be chilliness, loss of appetite, nausea, vomiting, constipation, and depression of all the functions; during this time congestion is forming in some internal part, and hence it is called the *congestive* stage: these symptoms may either precede or accompany local inflammation. In a few hours reaction takes place; the vessels transmit the heart's energy more powerfully in consequence of their dilatation, this reaction, or state of excitement following the depression, is called the *hot* stage of the fever, and it is during *this* stage that the local inflammation is usually developed—the excited heart backing, as it were, the circulation through the affected vessels. Again, we find an example of inflammation arising from a constitutional cause in the case of pneumonia following asphyxia: in this state you know that the lungs are greatly congested and their function interrupted:—now if reaction occurs during this congested condition, the congestion becomes converted into inflammation, and thus pneumonia is determined. This state of reaction operating through the whole system constitutes what is known as *inflammatory fever*, the most remarkable symptom of which appears to be the increase in the action of the heart: during the decline of inflammation the pulse becomes much softer, in consequence, of course, of the heart's action being diminished. A brief description of inflammatory fever would be *coldness and depression, followed by excitement and heat.* Not only is the action of the heart augmented, but the whole vascular system and its functions (secretion, absorption, &c.) are affected also, and sometimes to a very considerable and serious extent. We have abundant evidence of the derangement that is produced in the symptoms that present themselves: these are chiefly heat and dryness of the skin, nausea, restlessness, thirst, high-coloured and scanty urine, constipation, clamminess of the mouth, with an unpleasant taste and furred tongue: also loss of appetite and an arrest of the gastric secretion: so that if food were taken it would remain undigested in the stomach, and be productive of increased irritation. If any ulcers should be present upon the surface of the body their discharge is very frequently diminished during inflammatory fever, and it is even sometimes entirely stopped. In addition to the symptoms already stated are the affections of the *sensation*, which becomes morbidly increased in certain parts, causing uneasiness and pains; also, intolerance of light and sound, sparks flying before the eyes, and noises in the ears, constituting tinnitus aurium. The motor power is unsteady, and hence tremors are often present. The mental faculties are also weakened; and delirium is by no means uncommon. The increased heat is a constant feature, and is owing, in a great measure, to the diminution of the perspiration, although it does not at all necessarily follow that because perspiration is profuse great heat will not *also* exist. All the functions are not equally affected, although the whole circulation is increased. The arteries are in a state of great tonicity, implying rigidity of tube, and, therefore, the pulse is hard; it is in consequence of this rigidity that the secretions are diminished. The capillaries are contracted; this contraction was, as I have previously mentioned, ascribed by Cullen to spasmodic action. There is no evidence of spasm amounting to obstruction.

PRIVATE COURSE OF OPERATIVE SURGERY.

By J. NOTTINGHAM, Esq., Member of the Royal College of Surgeons of London.

LECTURE III.

To many of you, gentlemen, the taking up of a bistoury, and the making of a cut or incision, might appear to be what is called a very easy matter, requiring no great surgical skill or previous preparation. Such an idea, however, of this elementary part of surgery, should be immediately banished from your minds; for, in truth, the doctrine of incisions, if fully detailed, and in every part investigated as much as it deserves, would form a very considerable portion of the science of practical surgery.

I do not intend by this prefatory remark to persuade you that the study we now enter upon is fraught with any uncommon difficulty—it is, however, my wish that you should regard it as one of considerable importance, for it bears upon nearly all the surgical operations of a serious nature, so that the rules to be observed as relating to it, are of every day—of constant application.

The study of the incisions practised for the removal of limbs, will be deferred until we consider the subject of amputation; so that, at present, it is for the most part what might be called minor incisions of which we are about to speak.

Before the surgeon touches his patient with the point or edge of a cutting instrument, he should take care to place himself in a favourable position with regard to that part of his patient's body on which he is about to operate, so that he may neither feel, nor seem, awkward during the performance of that which has to be done; the operator should be satisfied, before-hand, that the sufferer cannot, or will not, start from the posture which has been chosen as best suited to the operation; and the former condition of this precaution should always be preferred to the latter, where children or undecided people are to be dealt with. In such cases, if one limb be the subject of operation, the other three may be confined in the folds of a sheet or long towel. Where any part of the face or neck is operated on, the child should be completely rolled in a strong sheet, or blanket, as the best means of preventing those sudden starts of the limbs, or writhings of the trunk, which may arrest or materially disturb the progress of delicate incisions. These precautions I have often found valuable during the hare-lip operation; and, also, in one case of the ligature of the common carotid artery, in a very young subject.

It is not often desirable to tie the patient hand and foot, except in the operation for stone; but security against starting should always be obtained in some way or other, wherever an incision is about to be made, except in cases of mere puncture, or where the sudden and momentary plunge of a lancet achieves all that is required.

If an operation consist of a simple incision, to be done at once, as with the bistoury, the preparation of the instrument is easy; but if it be so far complicated as to require many incisions, and the employment, perhaps, of more than one or two instruments, these should be ascertained by the surgeon himself, beforehand, to be in good order, the blades of knives clean and well-polished, their points sharp, their edges keen, and set in the right direction; the joints of scissors and forceps, moving easily and freely, without grating on the one hand, or over-slackness on the other, and their edges and points attuned to their office. Such instruments, during the operation, should be placed near to the surgeon, and, if possible, within his reach, that he may lay hold of those he requires, and thus render himself independent of lookers-on, who, to use the words of a great master of the art, in nine cases out of ten, owing to anxiety, or curiosity, hurry and agitation, hand any thing but what may at the instant be required.

The patient prepared—the instrument prepared—the surgeon prepared—the part to be operated upon must also be prepared, before the knife approach it. Where incisions are about to be extensive, the surface should be previously shaved, if the hair upon it would be likely to be troublesome during the operation, or in the future dressing of the wound.

The main consideration, however, connected with the preparation of the part, is that which regards the state of tension to be given to the structures we are about to divide. As much as possible, the surface to be divided should be rendered moderately tense by a circumferent traction, exercised equally in every direction; thus will the making of a clean cut be facilitated, and its terminations will be less likely to present the appearance to which the name "tails" has been given.

Often, however, the surgeon, with the fingers of his left hand pressing on the surface, opposes the traction exerted by the course of the knife in his right, without any lateral or cross tension being practised, which should, nevertheless, be obtained from the hands of an assistant in operations, where greater precision is required.

When dividing the integument over the situation of important blood-vessels or nerves, or parts which we are required to hit, or cut down upon, great care must be taken in stretching the skin, or practising the tension, that the surgeon, observing accurately the relation of any part of the integument to all which lies beneath, may not be misled when this is altered by the new position which stretching gives to the more superficial parts concerned in the operation; he should watch the motion imparted to the surface by his own fingers, or those of his assistants; and should take into account both its direction and extent; and should remember, at the same time, the peculiar extensibility or elasticity of the structure he is about to divide. This caution will be found more particularly worthy of notice in operations for the ligature of arteries, as the brachial, femoral, &c., while the neglect of it sometimes leads to no small confusion in seeking with the probe or scalpel, if such phrase may be allowed, the trunks of these important blood-vessels.

In making an ordinary straight incision with a common bistoury, an inclination is given to its edge, a little nearer to the horizon than that of the pen in writing; but at the commencement and termination of the line of incision, the instrument must be entered, and withdrawn, nearly in the perpendicular direction, that the different parts of the incision may be of equal depth, and its extremities well-defined.

The degree of force or pressure employed upon the bistoury, must depend on the depth of the incision to be made, or on the density of the parts to be divided.

Incisions may be said to be simple or compound, or straight or curved; for of the various combinations of the two latter, the others may be said to consist.

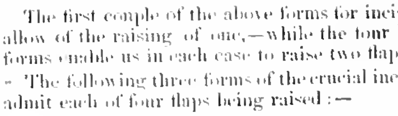
Incisions are often made to resemble, in their general outline, different letters of the Roman alphabet, the form of the following being more especially imitated:—

A V I C H L O T

The alphabet of incisions, however, is not confined to these, for figures like the following come in their turn:—

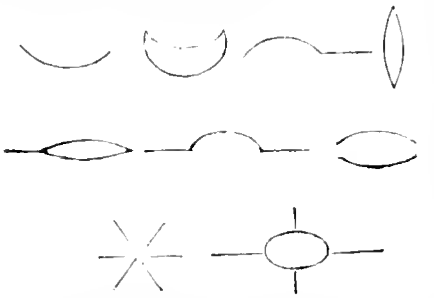
The first couple of the above forms for incisions, allow of the raising of one,—while the four latter forms enable us in each case to raise two flaps.

The following three forms of the crucial incision, admit each of four flaps being raised:—



It is better to keep as much as possible to straight lines, for, with the aid of these, reunion is more readily and more easily effected; nevertheless the shape, situation, or condition of deformed or diseased parts, oblige us now and then to deviate, not only from the straight line, but also, in

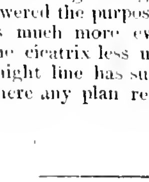
some degree, from any established rule. Hence the imitation of figures such as the following, in some operations of the bistoury:—



The two latter, especially the star-shape, can seldom be wanted; Malgaigne, however, has thought it worthy of notice, in his work on Operative Surgery; and the other may be required in exposing vascular growths, so as to surround them by ligature, where it may be necessary to remove part of the integument; and still further, to denude the subjacent structure, by the turning back of the flaps. Mr. Liston gives a representation of this incision in his valuable work on Practical Surgery, and speaks of having employed it in a case of subcutaneous erectile tumour on the shoulder of a child. Part of the integument was discoloured, and adherent to the subjacent mass, *nævus maternus*; but the boundaries of the tumour extended far beyond. In order to surround the diseased parts, it was found necessary to make the incisions as represented in the accompanying figure, and to dissect the intervening integument from the surface of the tumour, to the requisite extent.

Although the form of incisions be so much varied, the most simple are those which are most frequently employed, one straight line being required more frequently than any other kind of solution of continuity on the exterior of the body; for this varying in length, suffices in the majority of scarifications, in the opening of abscesses, in the removal of small tumours, in most of the operations for the ligature of arteries, and in some of those performed for the relief of strangulated hernia, in the operation for stone, &c.

There is one error which young surgeons are very apt to commit in cases, where much depends upon the situation and extent of this single straight incision. In many of the cases just now alluded to, we need not say any thing respecting the importance of choosing carefully the locality of the incision, or the line of surface through which it must pass; but let it be remembered, that in eight cases out of ten with ordinary operators, the first straight incision is made TOO SHORT, and thus every future step of the operation is rendered comparatively awkward and difficult, its progress retarded, and the sufferings of the patient increased, until the surgeon, perhaps taking a hint from the bystanders, extends his first incision, to give that facility to the rest of the operation, which he ought to have had from the beginning; but even this way of making the best of a bad job, is better than the plan, sometimes adopted, of changing the figure of the incision by giving to it a side branch, for the purpose of raising a couple of unnecessary flaps—where a little lengthening of the single line would have answered the purpose, for the reunion of the parts is much more even, more readily effected, and the cicatrix less unsightly, where a single and straight line has sufficed on the exterior, than where any plan represented by this figure



is resorted to.

There are but few instances where the external incisions now alluded to, need be confined within very narrow limits; and if they should be made half-an-inch too long, never mind, this can do no great harm,—but, if allowed to remain too short, the annoyance to the surgeon is great, and the injury to the patient may be equally so.

Some of the figures we have exhibited as representing forms of incision, suppose the removal of a portion of integument, a proceeding which should never be resorted to where we can avoid it; and, as far as tumours are concerned, this is not so often necessary as might at first be imagined,—and this fact, like many others connected with Operative Surgery, reminds us of the importance of attending to the peculiar vital and physical properties of the parts concerned in surgical operations; for the extensibility of the skin is very great, and, inasmuch as it possesses a corresponding contractile power, we shall find that after the removal of very large tumors, which have grown beneath it, the tegumentary membrane will gradually creep within its primitive limits: while the wrinkling in the neighbourhood of the cicatrix, which may at first look awkward, will afterwards by degrees disappear. By way of illustration, the following case may be mentioned, which occurred to me a few months ago.

A middle-aged man had a tumour of the neck, in front of the wind-pipe, of the shape of the human kidney, but larger; it had been some years in gradually attaining the size it had, when I first saw it. It was very unsightly, forming a large projection which prevented the approximation of the cravat to the fore-part of the neck: but its disagreeable aspect was its least inconvenience, for it pressed upon the trachea and larynx, and kept up a continued irritation about the glottis, and a very troublesome cough. Before the patient came under my care, he had rubbed mercurial ointment upon the tumour, and taken internal remedies for it at the same time, but without any good effect. On examination, I found that it did not consist in any enlargement of the thyroid body, but that it was an encysted tumour, with a tolerably strong capsule crossing the neck, the extremity of it on the right side being placed somewhat higher than that on the left. It was, in short, one of those large tumours of the neck which have been so carefully studied and well-described by a venerable and experienced surgeon, the late Sir Everard Home. On the exterior, its general aspect was rounded, the kidney shape coming more into view as the divided integument was pressed aside at the time of its removal.

A longitudinal incision was made over the fore-part of the tumour, which extended also above and below it, reaching from a point not far from the back of the chin, to within a short distance of the top of the sternum, the divided integument was drawn aside, and the tumour exposed by dissection; a strong thread being passed through it was given to an assistant, who by traction exerted upon it, rendered tense the different parts of the cellular tissue as they came beneath the touch of the knife; and in this way all the connections of the tumour were divided, and its removal in the entire state effected. The larynx was exposed, and the muscles lying upon it, and the beating of the right carotid could be very distinctly seen; and the chasm made beneath the uplifted skin was large enough, when the tumour was removed, to admit a small closed fist. Yet although such was the extent of the integument left, the line of wound healed as kindly as possible, and the skin has gradually assumed its natural condition with regard to extent. The man has long been perfectly well—freed from that disturbance of the respiratory apparatus from which he previously suffered—and the integument of the neck is at present in no way peculiarly wrinkled or redundant.

Mr. Liston has valuable remarks on this subject. He says:—"In all cases where the skin is not thinned to a great degree, and altered in structure, it will be prudent to leave nature to deal with it, when laid down in position, after the removal of the offending part. In such cases, however, great care must be observed as regards the approximation and retention of the edges, and the formation of a dependent opening, so as to prevent accumulation of blood, serum, or pus, at various periods of the cure."

The engraving accompanying will give some idea of the aspect of the above case, before operation, and of the value of the practice now recommended to notice.

ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR, TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. Serres, Member of the Institute, of the Academy of Medicine, Professor to the Museum of Natural History, Paris, &c., &c., &c.

Theory of homologues—Its application to the organisms of the invertebrata—Principle of the analogy of organic tissues, by Bichat—Origin of comparative Anatomy—Principle of the correlation of forms, by Cuvier—Geoffrey Saint Hilaire's theory of analogues—Comparative ovology—Theory of centripetal development—Transcendental anatomy, as compared with zoology and comparative anatomy.

I EXPLAINED to you in my last lecture, how Haller adopted the theory of evolutions, to gratify his favorite idea of centrifugal development and of the creative action of the heart. The development of vegetables, as compared to that of animals, was as a consequence forcibly excluded from this theory. The separation of the two kingdoms was the necessary effect of the tardy period at which these observations were commenced. The system of Aristotle and of Aquapendente, took precedence of that of Harvey and of Malpighi. Epigenesis, on the contrary, tracing matter in its passage from the inorganic state to that of organization, following it step by step through its various transformations, forms the true continuation of the system of Malpighi. As in the theory of evolutions, all analogy was rejected between the development of animals and that of vegetables, so is the study of this analogy one of the essential bases of epigenesis; here we find a common character in the works of Malpighi, of Needham, and of Wolf. These celebrated anatomists, however, fell each into a similar error; they did not confine themselves to direct observation. Attempting to soar still higher and endeavouring to explain the cause of the difference in development between vegetable and animal matter, their researches became imbued with a mixture of conjecture and of fact which not only impairs them, but frequently even renders them unintelligible.

From these combined efforts, however, sprung the science of organic evolutions, which, regarding the organisms at their secondary period of formation, is in reality but the study of the second stage of epigenesis. Setting out from this point, epigenesis and the theory of evolutions progress together, following the organic transformations up to their perfect development. We will, however, point out the differences between these two theories. That of evolutions commences only when the first formations are completed, that is to say, at the appearance of the heart. All that precedes this

stage, is considered to pre-exist or to be preformed. This unknown period, on the contrary, is the constant object of the labours of epigenesis, inasmuch as the laws of formation can only be appreciated before the formation of the organisms: or rather, during the progress of their first rudiments. Hence do we find in the theory of evolutions, a total absence of laws of formation: in that of epigenesis, on the contrary, a constant necessity of the study of those laws; in the theory of evolutions, a neglect of the relations which exist between vegetables and animals; in that of epigenesis, a necessity for their consideration; in the theory of evolutions, an increase by *intus-susception*; in that of epigenesis, an increase by *extra-susception*: in evolution, a development of organs by extension and by continuity; in epigenesis, a development of organs by the successive addition of homogeneous organic materials. While tracing the conversion of the theory of pre-existences into that of organic evolutions, we may also follow the transmission of the ideas of one period to another in anatomical researches; for we must remark, that the application of the same principles in science almost always produces similar results, modified simply by the progressive march of observation. Thus the principle of unity and of continuity of organisms had produced, as we have previously said, the theory of histologic homogeny; the same principle conducted, with the system of evolutions, to the theory of organic homology. In place of an elementary tissue, this was a collection of tissues, a compound organism which was presumed to give birth by its extension and by its repetition to all similar organisms.

André Bonn was the first who, in tracing the organisms one from another, remarked the repetition of the parts constituting them,: the hair, the nails, the teeth, the glandular follicles, being reduced to a common type, undoubtedly constitute a fact as remarkable as the transformation of the cutaneous covering into the mucous membrane, which first fixed the attention of anatomists. That which André Bonn had done with regard to the general covering of the organisms, Vicq-d'Azzr attempted in reference to the limbs of men and animals. The analogy between the upper and lower limbs is so evident that it has at all times struck even the common observer. But the anatomical demonstration of this vague idea required the whole power of a genius, such as that of the French anatomist. He compared bone with bone, muscle with muscle, and vessel with vessel. The result of this comparison was to show that the same parts are repeated exactly in the composition of the upper and lower extremities. Independently of this relation, there is also in the work of Vicq-d'Azzr the germ of the principle of co-existence and of harmony of parts, the demonstration of which constitutes one of the greatest glories of Cuvier.

Hitherto homology was merely, so to speak, of individual application. By comparing two organic elements, different in appearance, some analogy was shown in their composition; but no general element was possessed which served as a type, and from which all parts of the same organic system could be deduced. The trunk appeared eventually to furnish this element. Every one knows that the spinal column in man is formed by a succession of vertebræ placed one upon another. The spine is then in reality but a repetition of the vertebra. Now, the spine is surmounted by the cranium, and rests on the pelvis. What then are these latter parts? What are their relations with the chain of vertebræ which unites them together? The most original idea was, doubtless, that proposed towards the conclusion of the last century, and which regarded the cranium as a pure assemblage of vertebræ. Goethe appears to have been its author. But M. Duméril in France, and Oken in England, are the first who demonstrated this relation. The cranium is then a repetition of the vertebral column; and in the same manner, the sacrum is but its continuation. Thus limited, the doctrine of homologues does not appear liable to the objections which have been raised against it. But can the same be said of those propositions of MM. Oken and Spix, in which they attempt to trace in the different parts of the head the repetition of the various parts of the body—the thorax in the nose—the pelvis in the os hyoides—and the whole bony system of the limbs in the maxillæ and the teeth? or can we with M. Meckel consider the *glans penis or the clitoris*, as a repetition of the tongue, the vagina of the nasal fossæ, or the small bulb which terminates the spinal marrow as a repetition of the brain? Would not these forced analogies bring the organization of the vertebrata down to the level of that of the invertebrata? In the latter class of animals, the simplicity of the organisms justifies this repetition; it has moreover been placed beyond doubt by the researches of M. Savigny upon insects and the crustacea, and by those of MM. Dumal, Meckel, Audouin, and Duges, upon polypi and the annelida.

By the side of this unitarian anatomy appeared the general anatomy of Bichat. In opposition to histologic homogeny, this system might be denominated differential histology. Created under the influence of the theory of pre-existences and of evolutions, it took from physiology its principal direction, and with a view of unfolding the properties of organisms, it applied itself in an especial manner to the consideration of their structure.

This study necessarily brought back that of the tissues. The school of Haller had not neglected this subject: the osseous and muscular systems had been the object of the labours of Albinus, of Winslow, of Sabatier, &c.; the vascular system had especially occupied Ludwig; the lymphatic vessels, Cruikshank and Mascagni; the nervous system, Haller and Prochaska. Important discoveries had marked the course of these anatomists: but scattered and unconnected they remained unknown the one to the other. This defect, so sensibly felt, Bichat removed by his magnificent work on general anatomy.

Sufficient attention has not been paid to the means by which this grand work was created. It was not merely by the most able dissection, nor by the chemical re-agents to which the various tissues were subjected, nor even by the analysis which he made of their properties, that Bichat attained his end. These material processes were in reality but as the scaffolding to the building. A constantly prevailing idea governs over the rest; namely, the principle of the analogy of organic tissues. The anatomical characters of a tissue once laid down, Bichat traced this tissue through all its modifications and transformations, and did not abandon it until obliged to renounce his rigorous modes of investigation, which are the touchstone of the principle of analogies This it was that constituted his system of anatomy. Analogy of structure, analogy of properties, consequently analogy of functions; this is the characteristic distinction of the immortal work of Bichat and the source of his useful researches. While tracing the transition of tissues, with a view of studying their normal transformations, Bichat perceived that these transformations also take place in an abnormal manner. Now, this abnormal evolution of tissues by modifying them, in like manner modifies their properties, and by modifying their properties, inevitably induces a change in their functions: thus constituting disease. Hence, then, we trace disease to the transformations undergone by the organisms. Now, these transformations, called accidental, when considered in themselves and in their relations with functional modifications, give birth to a new science, pathological anatomy. It is this science, originated by Bonnet and by Morgagni, which was raised so high by the researches of Laënnec, of Bayle, of Corvisart, Dupuytren, Meckel, Andral, Louis, Breschet, and others. It is to the study of diseases what normal anatomy is to physiology. Thus do all the medical sciences form in the aggregate a chain linked together by the principle of analogies.

What are we in medicine, if not the disciples of Bichat, the followers of his views upon anatomy and of his ideas upon the correlation and the evolution of functions, so well laid down in his "*Traité de la vie et de la mort?*" Is it not by following the routes marked out by his genius, that medicine in France has attained the elevation on which it has been placed during the last half century? The progress of medicine has, in fact, depended on that of pathological anatomy; the latter on the advance of general anatomy; and general anatomy itself is lastly but a fruitful application of the principle of analogies. It is thus that comparative anatomy was originated. Daubenton was the first to comprehend the general principle, the common bond of all the separate facts which serve as its basis. He took man as the term of relation, and animals as means of comparison. He, for the first time, gave to this study a fixed direction, a course in which Vicq-d'Azyr afterwards laboured with such great success. But neither Vicq-d'Azyr nor Daubenton succeeded in giving it a truly scientific character; this glory was reserved for the illustrious Cuvier. It was not, however, by constant dissection, nor even by the most careful comparisons alone that this study became erected into a distinct science. This was accomplished under the influence of a principle, that of *the correlation of forms*. The organic forms in man and animals are made subordinate one to another to produce a fixed action; a given form necessitates a second, the second a third, the third a fourth, thus gradually connecting together the whole series of organisms from whence animality results. Considered in this way, comparative anatomy made rapid strides towards two grand results; on the one hand, it connected with the forms in man the variations of form in animals; and, on the other hand, it rendered subordinate one to another the forms of animals by establishing their reciprocal relations. From the first result sprung differential comparative anatomy; from the second arose zoology, the fundamental principle of which, deduced from the correlation of forms, was the *subordination of characters*.

We now come to the subject of animal fossils. These remains were known before the time of Cuvier; they were carefully treasured up in libraries, and written on in most of the academical memoirs; but not a single general idea had been emitted upon their minute descriptions. Cuvier appeared and applied to them the principle of the correlation of parts, already proved by comparative anatomy, and quickly these bones, leaping as it were, from the depth of their sepulture, rallied at the voice of this principle their scattered fragments, and arranged themselves in skeletons as complete as those prepared in the laboratories. This unexpected resurrection was not confined to the skeleton; lost animals reappeared before us, with the entire characters of their order and family—presenting a kind of image of the creation,—an example of the power of an idea, or of a general principle, even in the sciences depending on observation.

Here ended the reign of organic pre-existences; its last hour was naturally brought about by the decline of the grand discoveries, which the anatomy of organisms gave rise to in their perfect development. The principle of the correlation of forms and of the harmony of parts had been its grandest and most fertile result. This principle, being founded on the idea that the organs of an animal form an entire whole, of which all the parts hold together, acting and re-acting one upon another, it resulted that no modification could take place in any of these organs without producing corresponding and analogous results in all the others. Their harmony could only be conceived by means of this mutual and general agreement. The consequence of this principle, in organogeny, was not only to render prevalent the idea that the young embryos are the miniature of the perfect animal, but even to check in its development the theory of evolutions, according to which slight transformations are allowed to take place in the organisms. New principles then became requisite, to give to organogeny a fresh impulse and bring it back into a direction which it had abandoned; it was, moreover necessary that these principles should direct attention upon the order of facts transitorily presented by the organisms in the course of their development. These requisite principles were not long in appearing. By the side of the differential theory of organisms, arising from the principle of the harmony of parts, was erected the theory of analogues, springing, on its side, from the principle of organic analogies, so clearly arranged for the first time by Geoffroy St. Hilaire. The basis of this new theory was the principle of analogies, as that of the preceding was the principle of dif-

ferences; its object was to establish the analogy of composition in organs and in animals, in opposition to the differential theory which pre-supposed them essentially different. Now, for the purpose of establishing this difference, authors had merely pointed attention to the state of organs and of beings in the last term of their development. Geoffroy St. Hilaire, on the contrary, wishing to show their analogies, directed his study over the different periods of development in organs and in animals. It was thus that he most clearly demonstrated that before differing, animals and organs are originally analogous. For the fixity of organic forms and the invariable character of zoological species, consequences derived from the differential theory of organisms, he substituted their variableness, an equally logical deduction of the theory of analogues. Against the reasonings of the differential theory, he opposed powerful organogenic facts. Under the influence of the differential theory, comparative anatomy and zoology remained purely descriptive sciences, similar to that which in man is named descriptive anatomy; but guided by the theory of analogues, these sciences became as general as human anatomy under Bichat. Thus what Bichat had done for organic tissues, Geoffroy St. Hilaire performed for the organisms and development of organs. He sought in the embryogenic state of animals, analogies which afterwards become effaced by the series of developments; and thus opened to science a new path abounding in fertile results.

Whilst Geoffroy St. Hilaire was giving this new impulse to the study of organogeny, demonstrating by experiment that the organisms of the lower vertebrata are represented in a transient state by the organisms of the embryos of the superior vertebrata, M. Meckel, in Germany, was following up the theory of organic evolutions as promulgated by Haller; MM. Spix, Oken, Müller, de Blainville, &c., were generalizing the homologic views of Bonn and of Vicq d'Azyr, by calling to their aid the data furnished by the differential theory, as well as those resulting from the theory of organic analogies. Lastly, comparative ovology, almost abandoned since the time of Hunter, received from the labours of M. Dutrochet that active impulse which MM. Cuvier, Oken, and Carus, have so ably followed up.

Still, in the theory of analogues, as well as in that of evolutions, or in that of homologues, organogeny constituted but an accessory part; it was not considered as a distinct science. And this, notwithstanding the facts collected by Aristotle, Aquapendente, Harvey, Malpighi, Maitre-Jean, Haller, Needham, and Wolf. But the misfortune was, that these facts being used in their turn either to sustain or to combat those general ideas, of which we have been giving a sketch, being often interpreted in a sense inverse to their true manifestation, formed in their assemblage an inextricable chaos, in which the mind in vain sought for a rallying point. This rallying point, however, does exist in nature; for, on the one hand, embryogeny presents to us the organisms, in their primitive state, separated and disjointed; and on the other hand, in their complete development, the anatomist observes these same elements united and combined so as to form a regular and perfect whole. How, then, does this metamorphosis take place? Is it chance which presides over an order of development, so constant, so regular—an order which is even maintained in apparently irregular formations? How can such perfect order exist, unless these developments be subject to fixed and general rules? The existence of such rules had been at all times felt, although nothing precise had been arrived at on the subject. How, then, attain this so desired end, the constant object of the efforts of so many anatomists, except by the one sure road—that of observation? It is this method—the only safe one in the natural sciences, which has shown to us the primitive division of organisms, as well as the rules which they follow in their progress towards union. It is by observation alone that we have seen them sometimes running regularly through all the periods of formation assigned to them, at other times arrested in their progress, and thus producing infinite varieties of form, but always designed upon one common basis, and formed of analogous materials. It is observation, aided by comparison, which has discovered to us that the organisms of the inferior animals are arrested in their developments at one or other of the embryonic phases of the superior animals; and that the various periods of arrest undergone by the organisms of the superior embryos, produce those numerous and varied organic malformations which constitute, in a great part, the domain of pathological anatomy. It is, lastly, by observation, comparison, and reasoning, that, descending or ascending the chain of the animal kingdom and of its embryonic productions, we have been enabled to rally that multitude of facts under one general and common law—the centripetal law of development which governs them all. Thus is the theory of centripetal development but the realization of the epigenic formation of man and of animals, as imperfectly glanced at by Harvey, Needham, Wolf, and Haller himself, before he abandoned the now invincible cause of epigenesis.

Transcendental anatomy thus embraces within its scope the immense field of animal organization in a perfect state, and that still more extended one of organisms in the course of development, whether considered during the embryogenic state of the superior animals, or during the whole period of development of the lower orders of animals. The conditions which it includes are, thus, of two orders: in the one division, we have the transitory forms presented by the organisms in the course of their developments; and, in the other, the permanent forms or states at which the organisms are arrested in the lower animals. We thus arrive at the explanation of the perfect organisms by following the transformations which they undergo, at the same time taking into account their stages of arrest, whether normally in the inferior animals, or abnormally during the course of embryogeny in the superior animals. From the consideration of these individual facts, and from their comparison one with another, arise views and relations different from those presented by comparative anatomy and zoology, which are limited to the consideration of the organisms and of animals in a perfect state. As, in the natural sciences, distinctions are merely based on differences, so differential zoology and comparative anatomy, regarding essentially the distinction of animals and of their organisms, have necessarily made the study of differences the principal rule of their researches. The principle of the correlation of forms, and that of the subordination of characters, perfectly resumed the natural method of investigation and classification, which alone could conduct these sciences to their present improved condition. On the other hand, as in the natural sciences, we can only determine by analogies, so, analogy of function, that of form and of situation, that of relation and of connexion of the organisms, that of their formation and development, and that of the rules which preside over their association and harmonization, are the principal bases of the researches of transcendental anatomy. Their end is combination, as that of differential zoology and comparative anatomy is division.

But the differences and analogies of organisms do not exist simultaneously in animals. There is one period for analogies, and another for differences; the more that the former are effaced, so do the latter become more prominent. Now, the differences being well characterized only in perfect animals, or at the period when all the evolutions of their organisms are completed, it was especially and almost exclusively, to this period that zoology and comparative anatomy applied. Imperfect organisms were considered but digressions. Hence, these sciences experienced no check from the theory of pre-existence and pre-formation of organisms. Directed incessantly upon fixed and permanent forms, the variations which these forms had undergone in the course of their developments imported nothing. Epigenesis was totally neglected.

The analogies, on the contrary, being principally manifested in the course of these metamorphoses, it is to the study of the fugitive and transitory forms presented by the organisms during their transformations, that transcendental anatomy is especially directed. Regarding incessantly imperfect organisms, or those during the course of development, it naturally conducted to the consideration of similar organisms in the inferior animals; and meeting in them fixed forms, which become reproduced as transitory forms in the superior animals, it deduced from their comparison new laws and relations which bind them one to another. Thus did the chimera of preformations become replaced by the theory of epigenesis, as more conformable to organogeny and the successiveness of organs. We now see how transcendental anatomy became based upon general embrogeny, from the study of organisms in the progress of development; whilst zoology, and the comparative anatomy of animals, were founded upon the perfect organisms. This difference in origin was necessitated by the difference of results which these sciences propose to attain. The object of the one is the distinction of animals, while the other attempts their explanation. Transcendental anatomy ends where zoology and comparative anatomy begin.

But in placing organic metamorphoses upon this delicate foundation, we must avoid falling into error, by constantly adopting the most rigorous mode of investigation, and by proceeding from special to general facts. In the sciences of observation and experiment, a theory should be but the free expression of facts; it ought to form in its *ensemble*, a perfect syllogism, of which the facts constitute the premises, and the mutual relations of the facts, the consequences. But, while adopting this principle, we should not, as is too much the custom of the present age, fall into the opposite extreme. We should not, by confining ourselves to the simple inspection of phenomena, or the mere instinct of observation, reject, as suspicious, every general truth, and regard every abstract proposition as an error. It is not so much these abstract theories, as their abuses, which have retarded the progress of comparative organogeny; and this has arisen, on the one hand, from an ignorance of the various states traversed by the organisms in the course of their development; and, on the other, from an incorrect appreciation of the relations of these organisms throughout the animal scale. We must, then, to avoid error, study the different organs in their primitive state, that we may the more surely be enabled to determine the various conditions which they assume in their subsequent states.

PERISCOPE OF THE WEEK.

THE EXCITO-MOTORY SYSTEM.—Dr. Marshall Hall does not concur in the opinion that the grey matter is, in every instance, the source of power in the nervous system, whilst the white or fibrous performs the office of a conductor merely. There is one fact which refutes it entirely. If we sever a muscular nerve from its connection with the nervous centres, and irritate it by a needle or the forceps, the muscle or muscles to which it is distributed are excited into contraction. Now here is power, the excitor power. To say that the impression is conveyed along the nerve is to assert a fallacy; for the puncture, the pinch, is that impression, and this is not conveyed along the nerve. On the contrary, some power,—some *vis nervosa*,—is called into action, and this power does extend along the nerve to the muscle. Yet the nerve contains grey matter. In short, power is present, no grey matter is absent. This, therefore, appears to be an experimentum crucis. He adverts to another point, that of the part acted in walking by the excito-motory property and function. Too much had been attributed to the agency of this property in this case. The mind, it is true, might be fully engaged in other thoughts, or trains of thought during walking. But so it might during the performance of a piece of music. Yet each key of the piano was pressed down by a distinct act, not of the excito-motory power, but of volition. Nevertheless, as in the

celebrated case of the ostrich, the head of which was struck off by a crescentiform arrow by the Roman emperor, the contact of the sole of the foot with the ground, no doubt, did prove an excitant, and had its share in inducing the successive acts of the limbs in progression. It was essential, however, to the safety of the doctrine to restrain its application within just limits. The excito-motory doctrine by no means depended on anatomy. Physiology has its own facts, its own evidence, irrespective of those afforded by structure, which might, or might not, for the present, afford its corroboration of the doctrine founded on those facts. If we remove the head of a frog, for instance, and irritate a limb, movements are immediately induced. If we now remove the spinal marrow, these phenomena cease. Now these facts are solid, as if the terms grey and white matter had never been uttered by the human voice. On such facts the excito-motory doctrine is based. The doctrine has proved as stable as the stable basis on which it is founded. It is only necessary to restrain it within its own province. That province is extensive enough, both in relation to physiology and pathology; it embraces all the acts of ingestion and of egestion in the animal economy, acts never explained before, and the class of spasmodic diseases.—Dr. Hall thinks it particularly desirable that the term excito-motory system should be limited within the bounds which he himself has assigned to it, for otherwise objections might be raised which did not apply to his use of the term, but to the more and more extended use of that term by others. He had always limited the designations of "the excito-motory system," "the reflex action," &c., to the true spinal system, the system of the acts of ingestion and egestion, inclusively of the cerebral on the one hand, and the ganglionic on the other, and he would say that the members of the society should, for the sake of truth and accuracy, do the same. Besides, nothing can be more natural in itself, as well as essential to just views of the subject, than the divisions which he proposes. We may witness the phenomena of a perfect infant; the cerebral, the true spinal, the ganglionic functions, are all perfect. We may watch the phenomena of an encephalous fœtus; in this case the cerebral functions are entirely absent; there was no sensation, no voluntary motion; the true spinal and the ganglionic exist together, but alone; respiration is continued, but it wants the equability which is conferred by the cerebral influence; all the acts of ingestion and of egestion were performed well enough. Lastly, we may examine an amyelencephalous fœtus, that is, one without cerebrum, or the true spinal marrow; it is incapable of an extra-uterine life; not an act of ingestion or of egestion is accomplished; all is interior and ganglionic. If there is no other evidence of the distinctness of the three divisions of the nervous system, these facts, though but as it were *lusus naturæ*, would be sufficient. Let us not proceed to confound them again, either by including in the excito-motory system phenomena which in reality belong to the cerebral on the one hand, or to the ganglionic on the other. It will be easy to devise other terms if we wish to speak of either of these. In the same manner he observes, that the question of the respective offices of the grey and white matters of the nervous system have nothing to do with the doctrine of the excito-motory system, which was established on its own basis, that of experiment and physiology. Dr. Hall thinks these respective functions not yet made out. They exist undoubtedly, but they have not been shown to be the seat and the conductor of power respectively. The experiment of irritation of a muscular nerve, isolated from the cerebrum and spinal marrow, but in connection with its muscles, he has already adduced as the experimentum crucis; there was power but no grey matter. For to say that the nerve conducts the impression is illogical and untrue; the impression is a puncture, or a pinch, according as a needle or the forceps may be used. Is this conveyed? Is the puncture, is the pinch, conveyed? To give either another name, that of the impression, for example, and to say that this is conveyed by the nerve, is a piece of self-deception, illogical, and untrue. No. Nothing is "*conveyed*." But the *power*, the *vis nervosa*, the inscrutable nervous power, unknown, except in its effects, is *excited*; and this excitement is extended, like the power of an electric conductor, or of a galvanic wire, to use a vague analogy, to the muscle or muscles, which it excites into contraction. In fine, thus we have nervous power without grey matter. The merit, continues Dr. H., which I would claim especially for the true spinal system (so I prefer to term and consider it) is its practicability. It has been justly asserted by Dr. Sharpey that we cannot now pass along the wards of an hospital without being continually called upon to apply our knowledge of this system to the cases before us. Do we witness a case of apoplexy, or of injury of the brain, or of hydrocephalus? Do we witness the sinking of the vital powers in typhoid fever, or exhaustion? Do we require a diagnosis between cerebral and spinal disease? A knowledge of this system has become as it were our stethoscope, and it is by its means alone that we can proceed in our clinical inquiries. But this day I have witnessed a case of epilepsy, succeeding to hemiplegic symptoms. The disease is no longer confined to the brain; its influence is extended to the spinal system. How could we trace the course of this terrific malady without a knowledge of the latter system? Every day the question comes before one, Is the case cerebral or spinal? Is it one of the nervous centre, or is it one of incident nerves? &c. &c.

TO CORRESPONDENTS.

X.—*We pray to be excused.*

W. T. M.—*Our Correspondent, whose initials we give, and whose respectable name we have, asks if he take the trouble to examine into Mesmerism, and "shew up its fabrications," whether we will allow him space in* "The Medical Times," *for the purpose of publishing his Evidence.—Answer. Cheerfully. We published in a number of vol. 5, a French Physician's statement on Calixte's* clairvoyance, *which he attributed, after much examination, he said, to trickery. Mesmerism, whatever it* is, *certainly* ought *not to be an affair of partizanship. As importantly connected, either by pretension or fact, with medical science, it calls for enquiry, and has a title to* fair play. *We should be very sorry to see it get more. We would not be accessaries to its getting less. We ask especially for* inquiry, *believing that as public journalists, it is our duty to favour the most searching investigations into this subject.*

Probe's Pencillings *of Dr. Roe (concluded) Dr. Bevan, Mr. Lyon, and Mr. Hale Thompson, in our next.*

A number of letters have been received.

We must postpone notice of a further mass of communications till our next number.

THE MEDICAL TIMES.

SATURDAY, NOVEMBER 5, 1842.

Non tua te moveant, sed publica vota.

MR. MACKINNON'S BILL—an abstract of which we gave a short time since—is good or bad, as we look at it in its *destructive* or *reparative* aspects. The evil of intramural sepulture is one of enormous magnitude. No powers of invention can exaggerate, as no powers of sophistry or impudence can extenuate it. Mr. Mackinnon has evidently reached this salutary conviction, and we must congratulate him that, relying on the good sense of the English people, he has dealt with the evil in a spirit of boldness, which, in these days of legislatorial timidity, argues well at once for the honesty of the promoter, and the eventual success of the measure.

The first clause of his bill, giving a home blow at the worst part of the system, annihilates all interments in churches, chapels, and private houses. A host of human carrion-mongers will, of course, rise in arms against an enactment of such inestimable value to the living. We shall, of course, be told of air-tight coffins, spacious catacombs, expensively-built vaults, newly-imagined and newly-erected crypts. Our answer is short. It is an abomination to have the dead mingling with the living. The human imagination, the moral sense—acting the forewarner against the physical evil—instinctively revolts against association with the decomposed and affrighting remains of what were once like ourselves. There is something horrible, something debasing, something *vulgarizing*, something demoralizing in the contact—the prospect—nay, the idea. With this—the positive corruption taints the air we breathe—makes rank the earth we stand on—incorporates its uncleanness in the waters we drink---it breeds disgust—it excites fear—it impairs, *destroys*, health—it poisons, tortures, *kills!* To change this may be ill to you—it is good for society. We cannot for ever shock decency, offend taste, destroy health, lower the tone of public delicacy and morals, to secure you a profitable traffic in human flesh—in plague-breeding corruption! The name of religion is defiled, not served, by connection with you; and this clause, carried, will do her more service than thousands received in burial-fees. It will allow churches and chapels to be attended with safety. At present, the wages, not of sin, but of piety, is *death!*

The next clause, enacting that there shall be no interments within a certain distance of cities, towns, and boroughs, forms with this, the *destructive* part of the bill, what (in some ignorance of the meaning of words in a *parliamentary* sense) *we* would call the *principle* of the bill. So far, Mr. Mackinnon has our enthusiastic support. He has shaped into enactments, improvements that the country is yearning after—improvements which advancing civilization has been demanding for years, with a constantly increasing importunity and power.

Let us now look at the honourable member as a legislative *architect*, in which character—it strikes us—another Mackinnon may follow him with advantage, and find alas! plenty to repair. He proposes, for example, on one side, that no cemetery shall be built within the fifth of a mile of a *gentleman's* house or *grounds*, without the owner's consent; he proposes, on another,

that a certain portion of the grave-soil shall be partitioned off exclusively for the poor, that no chance acquaintanceship may arise between pauper and genteel dust. We will not stop to enquire if these things were of *indispensible* enactment in his legislative bill—or of equal-handed justice in his legislative imagination,—but shall pass directly to consider the constitution of his Boards of Health. These he proposes to form in every parish and to compose them of three persons, the parson and the churchwardens! A committee of health without a medical man on it, Mr. Mackinnon? Are you serious?—for, if so, the manager who acted Shakespeare's Prince of Denmark *without Hamlet*, was a joke to you. Truly, if one were to form one's notion of medical men from their treatment by the House of Commons, we should really conclude that the only use recognized for them by the assembled wisdom of the nation, was, to be insulted *ad libitum*. What, surely are we good for, if not to be consulted on matters that concern health? If we are not at least as well qualified for the duty as the respectable parson, or the honest churchwarden, the sooner the State indemnifies us for the expences of our education, and prohibits the ceremony of our practice, the better. But so it is,—if ever there be a bit of patronage on the wing through the House, it may come ticketed with compliments to the clerical gentlemen, the bar gentlemen, the army gentlemen, the gentlemen about town—but never, by any chance, can it come to the unfortunate medical gentlemen. The nomination of barristers to overlook Lunacy Hospitals, and our omission here by Mr. Mackinnon, on Boards of *Health*, are happy illustrations!

If so good a thing is to be formed as General Boards of Health, why should Mr. M. neglect the machinery offered by the existing Boards of Guardians? If, for all matters concerning public health, the medical officers of the Unions, with the two oldest practitioners in the districts, were added as *ex-officio* members to the Boards, we should have bodies for the administration of the new Act which, if not the best, perhaps, that can be imagined, would be, at all events, far preferable to such petty nuclei of suspicion—of narrow-mindedness—of whimsicality—of interestedness, as are contemplated in the hon. member's scheme before us.

Mr. Mackinnon proposes, after five years, to give vestries full power to dispose of all grave-yards, private or public, in any way they may think fit. Is this just to the owners, or to the public? Is it shewing a legislative care of the general health, to place these open spots in the centre of large towns and cities, which, in a few years, might be made to atone for their past mischiefs to the public, by being made oäses in the city desert—ornamental promenades—places of exercise for the young—media of ventilation to all;—is it wise to place these at the mercy of the parochial parson, and two churchwardens? men who, from their habits, may often not be the most competent to judge, and, by their personal positions, often not the most disinterested in deciding, what may be the best attraction of such valuable sites.

The clause for *securing* early interment of the dead, though somewhat intermeddling, we look on with a favourable, though, in its present form, not with a *satisfied* eye. There can be little doubt that disease is much matured and spread by the too-common custom of keeping corpses in houses in a state of decomposition. An error on the other side is, the facility of premature interments—and we own that the possibility of so horrible a calamity operates upon us sufficiently strongly to make our support of the clause, useful as it is, contingent on the co-enactment of a body of medical police, who may watch over its administration.

Our praise, then, of Mr. Mackinnon's bill, can only be modified. It is too much for a prudent law—it is too little for a grand law. We question if his best policy would not have been, to have contented himself with removing the nuisance. In a healthy state of society, the removal of a peccant mass is the signal for the uprise of the more perfect substitute. A civilized country in anarchy to-day, will, by native force, find itself in order to-morrow: and if Mr. Mackinnon had closed burial-places in the town, he would not have wanted plenty of speculators to supply them for him in the country. Mr. Mackinnon, for a comparatively weak man, is a bold one: he has not only dared the enemies his bill required him to dare, but has thrown down the gauntlet to hosts of men who are far from being naturally opposed to him. We trust that the success of his battle with the worse opponents, will not be compromised by this superfluous extension of his hostilities. To prevent so lamentable a result, we suggest—and his *friends* will join in suggesting with us—that the bill of last year, may *not* be the bill of next.

He that chasteneth one, amendeth many.

English Proverb.

Ecce iterum Crispinus! Dr. Robert Hull is again at large! At the very moment we were congratulating our modern Quixote on a lucid interval, he was on the point of stalking abroad—the moon was at its full—to renew his fearful combat with the Windmill-Reform, and repeat his desperate onslaught on Common Sense and English Grammar. As, fortunately, he is his own Cervantes, and has for his Sancho Panza the Gazette's editor, we are favoured with a full record, in print, of all his sayings and doings in this (if he have friends) *last* adventure of his.

The chief feats of the present enterprize are in connection with the hospital physician, whom—like his rueful counterpart, shielding the boy from his savage master—he half-murders by the calamity of his protection. Dr. Hull proves the imperativeness of defining the character of the hospital physician. We pray he may be heard:—

The licentiousness of *reform*, which has distressed, *nearly subverted*, the empire, has *ramified* into our once *concordant* art; and unless the eyes of *its* professors are opened, will vitally damage *its* benefits. *I say* benefits, for, after all, the public are chiefly to be respected, when we discuss the *novel amalgamation of departments;* and I declare, with a venerated physician of the west, 'to me, personally, this will be of no consequence.'"

Perhaps our readers will think this a rather novel amalgamation of words. Certainly, there needs more intelligence than we can muster to grasp their meaning. They are psychological phenomena which, mystic as the mutterings of inspiration or idiocy, offer no chance of explication if he that spoke them, speak not again. Aristotle tells us---we should quote him in Greek if our readers were all as Hellenic as Hull—nullum magnum ingenium sine dementiæ mixturâ. If the latter admixture holds any fixed proportion to the former, the genius of Dr. Hull must be marvellously great. Something akin is obviously required to comprehend him. Warmed with admiration, let us pass from our own reflections, again to hear his:—

The division of labour is too sparing, not too *multiplicious*. This is shown in the metropolis, where full and successful play is given to the *divisional* arrangements. See the varieties of excellence in the same body of physicians: one intelligent *of* cerebral disorders; another *heartily* devoted to cardiac; a third *inspired* with *pulmonic* pursuits; a fourth *near dying* from investigations *of* the liver: all, authorities in their peculiar departments! So in the *surgic* arena: the herniotomist—the lithotomist—the amputator—the pathologist—*good* for joint-*evil!* Promiscuous labour cannot, logically nor consistently, step within the boundaries of a particular craft *nor* profession. If a man deserve those sneers which have been expressed towards him from a London chair, because he does not impudently pretend to universality in medicine, he is likewise contemptible because he does not expatiate, genius-like, beyond it Crichtonian perfection implies a circle of sciences. *The Duke* should unite, in his own person, the delivery of the nation and that of the Queen! and Dr. Locock is no philosopher, unless he can extricate an army from peril as well as a royal infant from *straits!*

—Or a Dr. Hull from a straight jacket, we had almost said, in our fears, that such merit as the writer's was beyond mortal appreciation.

Dr. Hull is fond of negatives: he uses them on the same principle, we suppose, on which he apparently uses his arguments—to destroy one another. What a pity we have not another Dr. Hull! The two negatives—positive negatives, by the way—would be invaluable to each other.

The doctor, after taking much trouble to establish the *imperiousness* of defining the character of the hospital physician, singularly omits to give us the necessitated definition. Will he allow us briefly to repair his oversight?

The hospital physician is frequently—we cannot, fortunately, say always, though, under the present system, he might always

he—a gentleman who had not, has not, never will have, one qualification for his post. Medical education and honesty, the two main attributes of every good physician, may have had nothing to do with his appointment to his office, and frequently have nothing to do with the discharge of his office duties. His position proves him to be a man of some wealth, or some interest—whether the first was acquired with honesty, or the second supported without servility, are things by no means matters of obvious, or even probable, deduction. Sometimes it may happen that he is a mere muddy-brained, grandiloquent pedant, who thinks himself profound when involved in a perplexity—witty, when laughed at, or a little extra-foolish---clever, when an object of wonder—as loved, because an object of solicitude; whose arrogance is equalled by his inanity---whose pedantry is surpassed by his ignorance---who explains the inexplicable by words that nobody before heard of, and elaborates illimitable *nonsense* into epistles of interminable length, which have no claim on human charity or endurance, save on the probable supposition that they are the *egesta* of a brain in a state of overcharged insanity!

All men, we are told, are fools *or* physicians at forty—never, surely, did man take so much trouble to prove that some may be *both* at fifty!

GORE'S AMMONIACAL SOLUTION OF ERGOT OF RYE.

(To the Editor of the "Medical Times.")

Dear Sir,—Having read in your valuable journal, some observations from Dr. Ridout upon the inconvenience as to time, of the *decoction* of ergot of rye, I beg to make the following remarks upon a form of that remedy which I have been using for several years, and upon the cases where its use is called for.

The "secale cornutum," is of such vast importance in the hands of the judicious accoucheur that any mode of preserving its qualities or of increasing its power cannot but be useful.

The tendency of the rye itself to deteriorate or get totally useless, if exposed to damp, and the frequent failures which appear to have resulted from the use of this remedy either in powder or the common tincture, long since induced me to devise a means of alleviating these evils. The preparation to which I refer, has, as far as my experience goes, during the past ten years accomplished every desirable end. I have had, during that period, the sole management of an "Institution for attending poor Lying-in Women at their own homes in cases of difficulty," upon the plan of the "Dublin Wellesley Female Institution," formerly conducted by Dr. Cusack, which has afforded me very many opportunities of observing the effects of the remedy; and I have heretofore declined publishing either the nature of the preparation, or the advantages attachable to it, until I felt quite convinced that both were worthy of consideration; and the *form of remedy* suitable for general adoption.

MODE OF PREPARATION.

Into half-a-pint of aromatic spirits of ammonia, I put four ounces of fresh ergot of rye, bruised coarsely. I allow this to stand for a month, frequently stirring the ingredient with a glass rod in the fluid; after which I squeeze every drop of the spirit out of the rye. The "ammoniacal solution," thus made, has a fine dark colour, and looks inspissated. In a glass stoppered bottle it may be preserved for any length of time without deterioration of power. This solution contains all the active principles of the rye in a convenient form, and increased efficacy, the ammonia causing the ergot to act more rapidly, and with greater certainty.

I administer 30 drops of it in a wine-glass of cold water, every ten minutes until the action required is sufficiently developed, applying gentle pressure with the flat of the hand, to the abdomen when the pains are present. Three such doses have, in the majority of cases which came under my observation, proved sufficient; but circumstances will now and then alter the requirements, as in other branches of medical practice in respect to various remedies.

It requires some consideration to determine the form of cases in which ergot of rye or any preparation of it may be used with safety and advantage; otherwise, the good expected, may be superseded by injurious results.

It is admitted by all who have had sufficient opportunities of using the rye *in its proper place*, that it is an invaluable addition to medical aid in such forms of difficult parturition; and that when it does act, varied degrees of contraction of the uterine fibre is the *specific* result of its administration, in cases varying in their circumstances.

Its use is therefore indicated in cases where inactivity or relaxation of the uterus is the *only* cause of delay; and where the uterine fibre has been stretched beyond the point necessary for its assumption of contractility. The full period of gestation having arrived, and the pains indicating the object which nature, apparently in vain, seeks to accomplish. It is necessary however, that other conditions co-exist before the remedy be employed; namely a *relaxed state of the os uteri, and of the other parts through which the fœtus has to pass.* In *such cases* as these if labour be protracted so as to cause anxiety, or justify interference, the ammoniacal solution of the ergot of rye will accomplish what is sought after without other aid than that required in ordinary cases of natural labour.

The indications for its use then are present when the propelling power is defective, or of itself insufficient; resistance to the fœtus from rigidity of the os uteri being no cause of delay, or only such as the induced uterine action is capable of overcoming.

In many cases, however, the head may be brought safely into the pelvis within convenient reach of the short forceps by this remedy, which advance alone is of very considerable importance: and in cases where the uterus does not contract with sufficient rapidity or to the necessary extent after delivery to prevent hæmorrhage, it proves of invaluable advantage: in such cases, however, circumstances demand more immediate collateral aid.

The conditions I have above detailed, will lead the practical observer to perceive, that in cases where the ergot of rye is indicated, the existing relaxation is that which frequently causes subsequent flooding, to supersede which, any means must be correspondingly natural. It becomes, therefore, apparent that the *remote* effects are as valuable where flooding would otherwise occur, as its *immediate* operation.

The state of relaxation where ergot of rye can be used with prudence, is almost always as *general*, as it is *local*; and in such conditions, the "aromatic spirit of ammonia," is not only admissible, but useful, so that the combination is unobjectionable as far as the latter vehicle is concerned.

Lastly, I have to observe that the cases in which we are called to administer ergot of rye, are the *very reverse of these* in which belladonna, tartrate of antimony, bleeding, and warm applications should be resorted to.—I am, sir, with many obligations for your kind insertion of this communication, yours very truly

W. R. Gore, M.R.C.S.

10, Cecil Street, Limerick, Ireland

Medical attendant to the "Limerick Institution for attending poor Lying-in Women, at their own homes in cases of difficulty," and to that "for the investigation and treatment of Diseases of the Chest."

Coronership.—The death of Mr. Smith, an attorney, leaves a vacancy in the coronership of the Southern Division of Staffordshire.—Dr. I. Turnbull, Dr. Dehane, of Wolverhampton, are among the candidates.

HYDROCELE COMPLICATED WITH HERNIA-HUMORALIS, CURED WITHOUT INCISION OF THE SCROTUM.

167, Bishopsgate Without, 1st November, 1842.

(To the Editor of the "Medical Times.")

Sir,—The following case which occurred to me at Rio de Janeiro, in the beginning of 1840, during my residence there, I beg to transmit to you, and hope, that if you think there is anything new or interesting in the treatment thereof, it may receive a place in your valuable and widely circulated periodical. I am, Sir, your humble, and Obedient Servant,

William Smith.
Surgeon.

Mr. F. W. a native of Great Britain, an apothecary, at Rio de Janeiro, presented himself to me in that city, in January, 1840. He was about 22 years of age, and had never laboured under any disease of the generative organs, save the one for which he now sought relief. His habits were regular, and his constitution good. On examining the scrotum, I found it swollen to four or five times its normal size; and by manipulation, I discovered that the left testicle was enlarged and hard, so as to increase greatly that side of the scrotum, in which it is situated.

Observing a lengthened cicatrix in the anterior part of the scrotum of the same side, my patient informed me, that he had been operated upon for hydrocele by a Brazilian surgeon about 18 months previously; which operation was performed by making a perpendicular incision of about an inch and a half long, dividing the scrotum and subjacent coverings of the testicle, until the cavity of the tunica vaginalis was exposed. The fluid of course escaped without difficulty, and a piece of India rubber bougie was inserted in the cavity, in contact with the testicle, having one of its extremities protruding at the wound. In this manner the external wound was closed around the foreign body, and the same treatment persevered in for three weeks: at the end of which time the bougie was withdrawn, and the wound thoroughly closed. The consequences of this treatment had been, painful swelling and enlargement of the testicle, which, at the time I saw it, was stated to be increasing, rather than diminishing; the cavity of the tunica vaginalis from this treatment, seemed to be quite obliterated; and fluctuation at no point of its extent was perceptible. Since the cure of the hydrocele had been in the above manner performed, the cavity of the tunica vaginalis of the opposite side had gradually been distended with serum; so that it surpassed in size the other side of the scrotum in which the swollen testicle was located. The patient had little or no pain on the side of the hydrocele; whilst the uneasiness of the other was very troublesome. He had been under the necessity of wearing a suspensory bandage ever since he had been operated upon; and the weight and size of the scrotum and its contents were daily increasing.

On ascertaining satisfactorily the seat and nature of the disease, I proposed to puncture the scrotum on the hydrocelic side with the trocar, withdraw the fluid, and inject a stimulating mixture of spirit and water, to excite adhesive inflammation. To this proceeding he objected, on account of the pain which he suffered consequent on the former operation, which had not even at this time altogether ceased; and thus I was under the necessity of trying the effects of local applications. Finding all the corporeal functions healthy, I ordered no constitutional remedies: but as a local application—Emp. Hyd. ℥iv. Pulv. Camph. ʒi, Misce bene et ft. Emp. This was spread on common lint, and so cut that it lined the inside of the net bag of the suspensory bandage, and I ordered the application to be renewed every third day. At the end of six days, my patient returned complaining of great pain of the scrotum; and, on examination, I found the cuticle pretty well peeled off from the whole surface which had been in contact with the dressing. At the same time the scrotum seemed much more swollen than before, and the dressing had been kept moist for the last three days by the serous discharge emanating from the surface. On the patient stating that he should be unable to apply the same treatment longer, unless he should confine

himself to his room, I changed it for that of Cerat. Calaminæ, to be applied in a similar manner, and changed twice a day. At the end of one week from this time, I found the surface healed, the swelling of the substance of the scrotum, which had been caused by the previous treatment, gone, and the quantity of fluid in the hydrocele apparently lessened, while the opposite testicle also seemed to be somewhat less bulky. Encouraged by these appearances, I applied the original plaster in a similar manner to the scrotum, which after being continued for eight or nine days, did not produce much irritation of the surface, while the fluid in the tunica vaginalis decreased more and more, and the testicle of the opposite side favourably diminished in size. This treatment was persevered in for three weeks longer; at the end of which time the whole fluid had been absorbed, and the swollen testicle exceeded the size of the healthy one, only in a very slight degree.

TWO CASES OF "FITS," WITH REMARKS.

By C. J. B. Aldis, M.D., Physician to the London Dispensary, and Lecturer on Medicine at the Charlotte Street School.

(For the 'Medical Times.')

Case 1. I was requested to visit Martha B., æt. 16, Sept. 29th last, residing in Hunt Street, by her mother, who stated that her daughter was in a fit, and had been so since two o'clock in the morning, and that she had suffered from a fit some time before, for which she was bled. I went immediately from the Dispensary, between twelve and 1 o'clock, and found the girl in bed, apparently insensible, and closely watched by her grandmother, who said that the patient had not spoken since two o'clock, although they had tried to make her sensible in every way they could think of. Pulse natural; skin warm; bowels said to be costive; catamenia regular. I called loudly to her, but received no reply; she seemed to be in a complete state of stupor. On trying to raise the eyelids, in order to examine the condition of the pupils, I found that she endeavoured to close them again. Suspecting the case to be hysterical, I told the mother to bring me a jug of cold water, and threatened to throw it over her if she did not return an answer to my questions. She had previously experienced a sensation of choking in the throat at different times. When the water was brought to me, I renewed the threat, and observed the eyelids begin to move. I was about to pour the water over her head, when she sat up in the bed, without opening her eyes, or returning an answer to my questions. On repeating the threat, she opened her eyes, and began to speak, to the astonishment of her anxious and wearied relatives. Aperients and antispasmodics, with cold affusion, every morning, were ordered. I told her to visit me at the Dispensary on the following Monday, which she did, and is now quite recovered.

Case 2. The following case is of a more serious nature, which occurred Oct. 24th, inst. The mother of the girl applied to me at the Dispensary to visit Sarah P. æt. 12½ residing in the Horse-ride, who, she said, had not spoken since 9 o'clock the same morning. I went immediately, between twelve and one o'clock, and found the patient lying in bed in a fit. Pulse oppressed; skin cool; bowels open; urine free; head warm; lips livid; foaming at the mouth; stertorous breathing. The pupils were contracted at first; but afterwards became dilated; feet cold; arms contracted across the chest; mouth firmly closed from rigid contraction of the muscles. Previously to her being attacked at 9 o'clock, she asked her mother for some meat, which was refused. Soon after the mother observed "a working of the fingers," and coma supervened. She had pursued her occupation of fancy trimming until Saturday evening, felt poorly on Sunday, and went to bed. Nine years previously she was attacked by measles, since which time she has been subject to occasional attacks of "asthma," according to the statement of her mother. Never had a fit before. Mustard poultices were applied to the feet, cold water to the head, and blood was taken by Mr. Gayton, the apothecary to the Dispensary.

After the abstraction of blood, the muscles of the mouth relaxed sufficiently to allow me to administer an active purgative, a portion of which returned through the nostrils, and the mouth became again firmly fixed. Various means were resorted to with a view to restore her, but she died in four hours afterwards. The permission of the parents having been obtained, her body was examined the next day. The mouth was firmly closed, and the abdominal muscles were very hard and rigid.

Head.—On opening the longitudinal sinus much dark fluid blood escaped. On removing the dura mater the surface of the brain was observed to be congested to the last degree. The ventricles contained no effusion whatever, and there was no trace of ruptured blood vessels in its substance, which however was greatly congested.

Chest and Abdomen.—Old adhesions were detected between the pleura pulmonalis and pleura costalis of the right side of the chest, the lung of the same side containing more blood than natural. The heart, left lung, and abdominal viscera, were all healthy. The alimentary canal contained a small quantity of feculent matter.

Remarks.—The foregoing cases present a remarkable contrast, the first being a case of hysteria simulating apoplexy, the second presenting an example of apoplexy from cerebral congestion, which, most probably, was connected with the morbid changes in the lungs, affording an impediment to free circulation of the blood through them. She had been affected with headache at different periods for a long time. The case of hysteria affords an example of the necessity of not having recourse to blood letting in every case of "fits," although the popular opinion may be in favour of it. The mother of the girl in this case was dissatisfied at first that I did not bleed her daughter, but when she found that the patient was able to walk to the Dispensary on my next visit, as I said she would be able to do, her anxiety in regard to bleeding ceased.

DEAFNESS SUCCESSFULLY TREATED AND CURED BY MEDICATED VAPOUR DOUCHE AND THE MEATUS EXTERNUS DILATED BY TENTS, &c.

To the 'Editor of the Medical Times.'

Sir,—Should you deem the enclosed interesting case of deafness deserving a place in your invaluable journal I shall feel obliged by your insertion.

I am, Sir, your obedient servant,
William Thornton,
Army Surgeon,
M. R. C. S. L.

, Baker Street, Portman Square, 25th Oct., 1842.

A gentleman residing in London of general good health, but of a nervous temperament has been *deaf twenty-three years*, in consequence of frequent *colds*, but his hearing was so defective as to render his life almost a burden to him; he had applied to several (so styled) *Aurists*, &c., who had prescribed stimulating oils, lotions, and blisters without benefit. Upon examination of the *meatus auditorius externus* of the right ear, I found it was much contracted in its calibre, by the thickening of the surrounding parts and especially the great increased density of the cuticle which had a *white, rosy* appearance, extending to the bottom of the auditory canal (near the insertion of the membrana tympani). On injecting warm water, a dull obtuse sound was produced, as if some dense medium was interposed (the patient said that he felt something rattle in his ear); the orifice was nearly closed and it was with some difficulty that a probe entered it; a sensation to my touch was conveyed different from that which would have been produced by the contact of a healthy membrane; whilst at the same time it did not cause the usual painful sensation. The sense of hearing was nearly *lost* but a watch applied to the ear was audible. He could with difficulty force air into the tympanum by powerful expiration; the nose and mouth being closed, air passed freely through the left *eustachian tube* into the outer ear, the *membrana tympani* being *perforated* (the patient was not conscious of this circumstance). On passing the catheter into the *eustachian tube* it was clearly shewn to be narrowed; the *air douche* passed with some gurgling noise into the tympanum, and in the left tube the air passed freely; hearing distance of this ear was six inches.

On syringing the meatus and dilating the orifice there was not the slightest appearance of *cerum* but the same *rosy white* thickened cuticle appeared to extend as far as the eye could reach. These circumstances led me to think that it was possible the *deafness* depended on a thickened state of the cuticle reflected over the *membrana tympani*, similar to that which lined the meatus, or some morbid secretion existing between this cuticular layer and the membrane. To remove this cuticular lining I used a strong solution of *acetate of zinc*. In a few days, upon syringing with tepid water, several dark pieces of cuticle were washed out and the orifice dilated so much as to give a clear view of the state of the *membrana tympani* which appeared *dull and dry*. The unpleasant noise the patient had formerly complained of was now removed and from this time his hearing daily improved to the great delight of the sufferer. The *medicated vapour douche* used daily, after several sittings the *vapour* passed freely into the tympanical cavities, and his hearing gradually increased. The contraction was dilated by tents and the auditory passage anointed with ungt. *hydrarg, nitrat. dilut*, and ungt. iodid. comp. rubbed behind the ear and on the mastoid cells; at the same time *dec sarsæ concent.* with *potassæ iodidum.* administered for six weeks; under this treatment his hearing functions were restored and cured.

P.S.—This gentleman had been under the treatment of an *Aurist* five months without receiving any benefit and said that his deafness was much increased.

HYDRIODAS POTASSÆ.

To the Editor of the 'Medical Times.'

Sir,—The few following details, as exemplifying, in a striking degree, the occasional violent effects of a much used and favorite preparation of iodine, hydriodas potassæ, you may perhaps think not unworthy of a place in your widely circulated Journal.

As I had been some time previous to March last, labouring under a slight, partially diffused, chronic eruption, which I attributed to derangement of the chylo-poetic viscera, as a primary exciting cause, I resolved on trying the effects of hydriodas potassæ for its removal; with that view, I prepared a simple solution, intending to take the remedy in divided doses of 5 grains twice a-day. In making up the first dose, either from inadvertency, or from some interruption at the moment, I swallowed a portion, which was afterwards calculated to have contained 9 grains; the taste of the draught at

the time, felt pungent and characteristic. The dose was taken about 4 P.M., and, with the exception of the pungent sensation in the fauces, no other particular feeling was occasioned; except, perhaps, a degree of languor, until on going to bed at 10 P.M., I had the sensation of a common inflammation in the fauces, along with the continued characteristic impression at first given by the medicine. I passed a restless and sleepless night, from the presence of considerable febrile excitement, an almost constant discharge of saliva, and a most troublesome irritation in both eyes, inflammation of their conjunctival surface being produced, which, also, occasioned much pain and constriction in attempting to shut the eyelids; my gums were tender, and some pain was experienced by pressing on the regions of the parotid and sub-maxillary glands. The increased secretion of saliva and feverishness, subsided in the morning; and the inflammation of the eyes, gums, and throat, did so likewise towards evening: and next day, there was scarcely a trace of the peculiar effects of the medicine left behind.

In order to put it beyond question, that these rapid and somewhat violent effects, were occasioned by the drug, although, at the same time, aware that alarming symptoms had before been often observed and recorded, I collected the salivary discharge from the handkerchief I had used, after moistening it still further with water, and submitted it to the starch test, when there was immediately thrown down a copious deep blue precipitate.

My attention was the more especially directed to the uncertain effects of this valuable medicine, as I had not long previous to the time I tried it in my own person, used it to the extent of 6½ drachms, in divided doses of 10 grains three times a-day, in the case of a delicate lady, suffering from an obstinate, and long continued affection of the gums, apparently depending upon disease of their deeper structure; and, although, in this instance, its administration was not followed by any marked beneficial result, still there was no bad symptom ever complained of. I believe, however, that I would not have prescribed the remedy so largely, had I not previously observed it recommended in the same doses, and for a like affection. I may add, that the medicine, applied in both cases, was procured from one of our most respectable drug establishments, the Glasgow Apothecaries' Company.

The rapidly marked, and evanescent effects of this medicine, in my case, although, easily explained by peculiar susceptibility of habit, appear to me, to be not devoid of interest; and, should you consider it so, I shall feel obliged, by the insertion of it, in your valuable Periodical.

I remain, sir,
Your most obedient servant,
GEORGE LAING.

Ferry-port on Craig, 22d Oct. 1842.

DEATH FROM TARTAR EMETIC.

JUSTICIARY COURT OF SCOTLAND.—DISCRETIONARY POWERS OF THE PUBLIC PROSECUTOR.

(For the 'Medical Times.')

As illustrative of the views entertained in Scotland, of the responsibility of druggists, who, it may be remarked, are often grocers, or dealers in small wares, as well as drugs, the following may be quoted, as given in the *Perthshire Advertiser*, of Oct. 20th of the current year:—"Perth, Thursday, Oct. 13th.—The Court assembled this morning at ten o'clock (when, from the illness or unavoidable absence of one of the ordinary judges, the Lord Justice General, who is also President of the Court of Session, and the Lord Justice Clerk presided). Robert Henderson, grocer, Leven, County of Fife, and William Lawson, shopman to the former, accused of culpable homicide; he, Robert Henderson, having not such knowledge of medicines as to qualify him for a druggist, and having recklessly employed the said William Lawson, although he too was ignorant of the proper kinds and quantities of medicines that could be safely given; and that the said William Lawson, on 20th January, 1842, sold to Ann Johnstone *sixty grains of tartar emetic* for her father, James Johnstone, who, on taking that quantity, suddenly became very ill, and died in consequence. Both panels pleaded "Not Guilty." The Advocate Depute then stated to the court that it was his desire that the diet should be deserted against the prisoners. The case was before the last Assize held here, and had since been before the High Court of Justiciary at Edinburgh; besides their regret for the unfortunate circumstance had been lasting and severe. Under these circumstances, he thought that he was justified in that request, the more especially as it was not altogether clear that the person died solely in consequence of the medicine administered to him. The diet was accordingly deserted against both prisoners."

In the absence of information as to the particulars of this case we are precluded from making any remark as to the previous state of Johnstone, and have no doubt that the public officer (acting for the Lord Advocate) conceived that *he* was only doing his duty, in following the very lenient course adopted, in dismissing the prisoners from the bar of court. But it may very properly be asked, what security have the public against a repetition of a similar course of reckless procedure on the part of these village "Hornbooks," (see Burn's "Death and Dr. Hornbook"), whose ignorance is only equalled by their presumption and cupidity. The conclusion drawn by the public prosecutor, "that it was not altogether clear that the person died *solely* in consequence of the medicine administered to him," is evidently at variance with the previous part of the libel, when it is stated that, James Johnstone, who on taking that quantity, *suddenly* became very ill, and died in consequence."

The opinions of *Rasori*, as to the effects of antimony are well known, and at variance with the general experience of medical men. But in the admitted powerful effects of tartar emetic, even in small doses, it requires a more than ordinary stretch of judgment, to suppose that *sixty grains of tartar emetic*, could in ordinary circumstances, be administered without danger to life. And that ignorant and unqualified persons, should be permitted even, to sell such medicines is a libel on the laws of the land.

ROBERT ANNAN, L. R. C. S. E.

Kinross, Oct. 21, 1842.

A CASE OF TETANUS TREATED SUCCESSFULLY, BY OPIUM IN LARGE DOSES.

(To the Editor of the 'Medical Times.')

SIR,—Should the accompanying case be deemed worthy of a place in your valuable Journal, you will much oblige,

Your obedient servant,
THOMAS JOHNSTON,
M.R.C.S., &c.

Westerham, 26th Oct. 1842.

Sept. 18th. John Smith, a wheelwright, aged 20, nearly cut off the extremity of the middle finger of the left hand, with an axe. The wound extended about half way across the nail, near its root; the bone was completely divided, and the artery bled so profusely, that I was obliged to secure it by ligature. The wound was closed by strips of adhesive plaister, and for some days, union by the first intention appeared probable. The ligature came away with the dressings on the eighth or ninth day. About this day he was dressed daily with unguentum resinæ, the wound beginning to slough and look unhealthy; however, he suffered little or no pain. On the 24th, my assistant, after dressing him, informed me that he complained of stiffness in his jaw, and a little soreness of throat, for which he had given him a calomel bolus, and an aperient draught, supposing the symptoms were caused by cold; but, the patient himself imagined, they were occasioned by his having eaten a large quantity of nuts. Judging, from this account, that he was affected with tetanus, I called on him the following morning, and found his jaw so nearly closed, that I could not introduce the point of my fore-finger further than about half way up to its nail. The muscles of the neck, particularly the mastoidei, felt rigid; he complained of great stiffness about the neck and jaw, but had no difficulty of swallowing: the wound caused little or no pain. I immediately gave him sixty drops of tincture of opium, and ordered the same dose to be repeated at bed-time, and the finger to be wrapped in a bread-and-water poultice. The opening medicine given him yesterday operated several times.

26th.—No material alteration: says he slept well, but that his neck and shoulders are very stiff. Desired him to remain in bed, in order that perspiration may be promoted, and take the following medicines:

℞ Pulveris Opii, gr. vj.
Camphoræ ℈j.
Hydrarg. Chlorid. gr. iij.
Confect. Opii. q. s.
M. div. in pil. xij cap. j. 2da. hora.
℞ Spiritûs Ætheris Comp. ʒj.
Tincturæ Lavand. Comp ʒss.
Misturæ Camphoræ, ℥xi. m.
Fiat mistura cap. cochl. ij post pil.

27th.—Something better to-day: I can now introduce the point of my finger into his mouth, nearly up to the first joint; stiffness extending between his shoulders, but he can readily bring his chin down to the sternum, and move his head in all directions. No difficulty of swallowing, or spasmodic paroxysms, but a constant aching pain: pulse natural; tongue furred; thirst moderate. Repeat the medicines. Ordered to take wine and nourishing broths; but, to remain in bed.

28th.—Much the same: no stool since the 25th.

℞ Infusi. Sennæ, ℥ij.
Statim sumendus.
Repetantur Pilulæ et mistura.

29th.—Bowels constipated: in other respects as yesterday.

Repetatur Infus. Sennæ.
℞ Aloes.
Camphoræ, aa. ʒss. m.

Divide in pil. xij. cap. ij. 2da. horâ donec alvus respondet bene.

Oct. 2nd.—Bowels have been very freely relieved. He can now open his mouth sufficiently to admit my finger with tolerable facility; but, the muscles of the neck and back, are so powerfully contracted, that he can neither move his head, which is strongly drawn backwards, nor bend his body; complains of great pain in his shoulders and hips. A large blister to be applied between the shoulders and another to the lumbar region.

℞ Pulveris Opii.
Camphoræ.
Pulveris Ipecac. aa. gr. xxiv.
Ext. Hyosciam, q. s. M.
Fiant pil. xij. cap. i. 2da. horâ.
℞ Spir. Æther. Co.
Spirit Ammon. Co.
Tinct. Lavand. Co. aa. ℥ss.
Mist: Camphoræ, ℥xss. M.
Fiat mist. sumat cochl. iij. amp. post pil.

3rd. Somewhat better to-day: removed the slough and carious bone; wound granulating, and gives very little pain; says he sleeps well; has no headache; thirst and tendency to fever; moves his arms and legs with ease; but, cannot bend his body, or raise his thighs. No stool since the 1st.

℞ Pil. Hydr. Chlorid, gr. iij.
horâ somni.
℞ Infusi Sennæ, ℥ij.
mane.

The other medicines to be omitted till the bowels have been evacuated.

5th—No material alteration: the bowels still costive; a common glyster to be injected, and repeated in the evening, if necessary.

7th.—Much the same: lies like a log in the bed, having no power to move his head or trunk of the body. Two enemata were thrown up, but with great difficulty, in consequence of the strong muscular action, and caused so much pain, that he begs they may not be repeated.

℞ Ol. Ricini, ℥j.
Statim sumend. et rep. post tres horas si opus sit.
℞ Ext. Hyosciami.
Tinct. Opii, aa. ʒj.
Spiritus Æther. Comp. ℥ss.
Aquæ Menth. Pip. ℥vi. M.
Cap cyathum post operationem Ol. Ricini.

8th.—Both doses of castor oil were taken, and produced several evacuations. Rigidity still continues unabated.

Repetatur mistura et Adde Tinct. Opii, ʒss.

9th.—No abatement of rigidity, except that he opens his mouth with rather more freedom. Dislikes the mixture; several doses of which, have been immediately rejected; very little sleep.

℞ Opii, gr. iv.
statim.
℞ Tinct. Opii, ʒiij.
Tinct. Lavandulæ. Co. ʒij.
Aquæ Pulegii, ʒviij. M.
Cap. ut antea.

10th.—No sickness since yesterday: rigidity much the same; but less pain.

℞ Pulveris Opii.
Camphoræ, aa ℈j. M.
Divide in pil. viij. Cap. ij. a sing. dose misturæ.

11th.—Much better in every respect: sleeps well; but not more than patients usually do after a full dose of opium.

Repetantur Pil et Mistura.
The castor oil to be repeated, if necessary.

13th.—Has omitted several doses of his mixture and pills, having slept well. Castor oil repeated yesterday, operated effectually. Can raise himself a little, but not sufficiently to sit up.

Repetatantur Pil. et Mistura.

20th.—Much better: managed to sit up, with some difficulty. His mixture and pills were continued until the 23rd, when I found him so far recovered as to be able to walk across the room. The last two days he has slept almost continually. Has been sick several times this morning, and perspires profusely: very little pain, or rigidity; opens his mouth nearly to its full extent. Conceiving now the further use of opium to be unnecessary, I discontinued it altogether, and ordered the following mixture, and a continuation of his wine and nourishing diet.

℞ Spiritus Ammon. Co. ʒij.
Mist. Camphoræ, ℥iij.
Infus. Gentian. Co. ℥v. M.
Cap. cyathum ter die.

He continued this plan till the 25th; when, being perfectly recovered, I desired him to discontinue all medicines; dressed his finger with unguentum resinæ (which had hitherto been poulticed), and recommended him to use daily exercise in the open air.

I deem it necessary to state, that he can, at the time of my writing, open his mouth as well as before the receipt of the injury, and eats with the same freedom and ease, as hitherto.

Thomas Johnston.

THE SYDENHAM PUBLISHING SOCIETY.

To the Editor of the 'Medical Times.'

Sir,—Allow me through the medium of your Journal to draw the attention of the members of the medical profession, to a proposal that has been occupying the attention of several gentlemen for some time past for the formation of a medical society, on the principle of the Camden Society, for the re-publication of valuable and scarce medical works of this and other countries, one copy of each book to be distributed to every paying member. My object in addressing you is to beget discussion and advice, as to the best mode of establishing the society, and to ascertain, as far as practicable, the amount of interest that, would be taken in it by the profession, and consequently the degree of support to be anticipated.

I find, by a document now before me, that the Camden Society, which was instituted in 1838, numbered 900 members ere the close of the first year of its existence. The members were at first limited to one thousand, but the applications were so numerous, that a large number were speedily admitted. It was formed for the publication of early historical and literary remains in the most convenient form, and at the least possible expense that is consistent with the production of useful volumes. The governing body consisted of a president, council, auditors, and secretaries in the municipal cities of the kingdom. It is now, I believe, one of the most prosperous societies in England. The success attending the Art-Union and other institutions, shews the advantages to be derived from the aggregation of small subscriptions, and I see no reason why the medical profession should not be enabled to originate and sustain a society, the professed object of which is to acquaint them with the buried lore of the princes of medicine, buried, I say, in works, which are inaccessible to the great majority of practitioners.

The plan pursued by the Camden Society might, to a certain extent be adopted by the Sydenham. The number of members should be unlimited, all classes of the profession admitted as subscribers, and one guinea annually be the amount of the subscription. A governing council should be appointed to make the necessary arrangements, control the expenditure, and select the works destined for republication. These I would not confine solely to the works of our predecessors; there are many productions constantly issuing from the press of our continental brethren, with which we ought to be acquainted, but from their non-publication in this country, are unable so to be. An occasional translation, or original work, might, therefore, be added to the Sydenham collection without injury to the members. The medical profession numbers, as I think, upwards of 20,000 in the three kingdoms, and it is not surely too much to expect that one-tenth of these would be anxious to avail themselves of the advantages offered by the establishment of such a society. With that number, from the calculations I have made, I am assured it is perfectly possible to supply ten volumes annually to each member, or books to the value of five guineas for the annual subscription of one, nor would others limit its success, for it must be borne in mind that every additional 100 members would be equivalent to another volume annually. The prospects thus offered are not the result of a too ready credence, but are drawn from calculations carefully and repeatedly made—nor will they surprize any one, when it is remembered that the profits of the bookselling trade are not to be accounted for, the only incidental expenses beyond the mere publication, being for chambers, clerk, coals, &c. Original works, when given, will of course make a difference, as the author must be paid for his composition. I should be glad to learn the opinions of your subscribers with respect to this proposal.

I am, Sir,
Yours obediently,
F.

REVIEWS.

Observations on the Admission of Medical Pupils to the Wards of Bethlem Hospital for the purpose of Studying Mental Diseases, Second Edition, by John Webster, M.D. one of the Governors, &c. &c.

The medical profession and the public are indebted to Dr. Webster for this pamphlet. It is indeed strange that a disease that degrades man below the very brutes, should be so very little studied by the profession, or that so little opportunity should be afforded the profession of acquiring a practical knowledge of this most lamentable of all ailments. Yet such is the fact and we can hardly account for it upon any other principle than the incorrect notions so long prevalent in society and in the profession regarding the nature of insanity. So long as insanity was believed to be a disease of the mind, its nature was considered mysterious and inscrutable and no inducement held out for its investigation or study. But since insanity has been discovered and prov d to arise from morbid conditions of the brain—to depend upon corporeal causes—to be in fact a corporeal disease, susceptible of cure like every other corporeal malady, more correct and rational views of its treatment have been adopted and the profession are now alive to the horrors of the old practice. Lunatic asylums should be viewed as so many hospitals for the treatment of diseases of the brain and no argument can be used for excluding medical students from witnessing the practice of such hospitals that is not equally cogent in reference to every other infirmary or medical hospital that exists. These are views now generally entertained by the profession but the public are not so well informed, and the pamphlet of Dr. Webster written for the enlightenment of the Governors of Bethlem Hospital cannot fail in producing a good effect. Dr. Webster has both our thanks and good wishes for his laudable efforts.

Commentaries on Some Doctrines of a Dangerous Tendency in Medicine, and on the General Principles of Safe Practice. By Sir Alexander Crichton, M.D., F.R.S. Physician to the Emperor of Russia, &c.

SECOND NOTICE.

In accordance with our promise made the week before last, we resume the consideration of this very interesting work.

The "Second Commentary" commences with an account of the typ ous fever in London in 1790. At this period the doctor was one of the physicians to a public Dispensary in Featherstone Buildings, Holborn, and he informs us that he does not recollect one year to have passed over while he was attached to that institution—

"In which typhous fever did not originate almost every spring and autumn; and also frequently during winter, at one and the same time in several distant spots; but always in dirty and narrow lanes, and in damp courts, in which the wretchedly poor inhabitants were crowded together in low confined apartments,"—p. 42

The doctor observed that this fever was most prevalent in the lanes and courts of St. Giles, chiefly tenanted by the low Irish, and the disorderly of both sexes, and on his appointment some years after to the Westminster Hospital, he witnessed the same train of symptoms among the poorer classes of Pimlico, and its neighbourhood, for at that period, he tells us, the parish bore a very different appearance from what it exhibits at present. It was then not so well drained, and as many parts are below the level of the river at high water, it partook at times of the unhealthy malaria of marshy land; so that typhous fever, and bad intermittents, frequently prevailed among the poor. He then adds:—

"The recollection of these facts often brings to my memory many thoughts which presented themselves to my mind in those days, relative to the necessity of a well-regulated and duly authorized medical police, or board of health, not only for London, but for all our great cities, and more especially for some of the densely-peopled manufacturing ones, in which there was a disgraceful neglect of the health of the inhabitants, as far as the free ventilation of air and removal of filth, and other local causes of malaria were concerned,"—p. 42-3.

The Medical Times can do little more than re-echo this opinion. Had a medical police existed, the atrocious crime of erecting a hospital in the midst of a reeking grave-yard, crammed to the surface with the putrid bodies of the dead, as is the case with the charnel-house (so called) in Portugal Street, would not, *could not*, have been perpetrated. *The Medical Times*, however, has so recently exposed this monstrous violation of decency, this unblushing outrage on common sense, this desperate attempt on public health, that it would be tautological to go the same ground over again; but it is impossible to refrain from adding, that a more wicked, a more selfish, or a more disgraceful act of heartless cruelty to the poor, of irreverence for the dead, and contempt for the feelings of the living, was never perpetrated by Nero in the zenith of his depravity, or Ivan, the Terrible of Russia, in the fulness of his flagitious career, though the latter sometimes indiscriminately assailed peaceful villages with his armed myrmidons, and setting fire to the houses, butchered man, woman, and child, with a vivid and remorseless cruelty, that seemed rather the attribute of a fiend than the vice of a human being. Indeed we do not know but that Ivan's conduct was less cruel in its consequences, for his "*single* blow left little work for two," but the Portugal Street abomination forms the nidus of disease, which in its ramifications leads—God knows where!

To return:—Typhus, when first appearing in the localities of St. Giles and Pimlico, did not appear to be contagious, but when several members of the same family were attacked, and were confined in the same apartment, shutting themselves up close "to keep out the cold," a poison was generated by the confined exhalations of their bodies, "which soon affected many of the neighbouring families; but still the fever seldom spread far."—(p. 43) It generally assumed the character of mild typhus, but when a very cold and damp autumn succeeded a very *hot* summer, it had a severer character, and was frequently developed with all the aggravated symptoms of typhus gravior, complicated with petechiæ and vibices.

Our author does not recollect to have seen the bilious synochus of Sydenham prevail as a general epidemic, though a few solitary cases appeared now and then. In general it was easily cured, if in the beginning the brain was not implicated, and profound coma and stupor were absent. Neither did violent delirium, though an untoward symptom render the disease incurable. A free admission of cool, or even cold air, leeches to the neck, and blisters on the inside of the thighs, and between the shoulders; frequently washing the head, face, and neck, with cold vinegar and water, together with the internal administration of the nitrate of potass, and the liquor ammoniæ acetatus, to which were added the tartrate of antimony and calomel in *very small* doses frequently repeated, were the most effectual remedies for diminishing the cerebral affection. Delirium in a moderate degree was never considered as an unfavourable symptom. In no case was the *Lancet* employed for its removal. It was never deemed necessary. The violent headache and mild delirium generally yielded to a blister between the shoulders, when assisted by the other remedies just enumerated. But when the disease began with a profound coma, its termination was almost always fatal, p. 44.

At this period Sir Alexander says the treatment of typhus was nearly uniform—it was the same which had been handed down from the times of Sydenham; and the physicians, whose assistance and advice the doctor was accustomed to solicit, were the father of the late Dr. Warren, Dr. David Pitcairn, and Dr. Reynold's. All these practitioners abstained from blood-letting at every period of the disease except under very particular circumstances. Emetics and purgatives were sparingly employed, the practice agreeing in this respect with the advice of Cullen. The bowels were relieved when requisite by enemata, and in the first stage of the fever, all tonics and stimulants were avoided, while refrigerants and the saline diaphoretics, with small doses of antimonial wine, tartar emetic, or ipecacuana were freely and frequently given. Some practitioners gave the compound powder of contrayerva as a diaphoretic in the first stage. In the second and subsequent stages of the disease, when sustaining the failing powers of the patient was imperatively indicated, mild nutritive drinks, wine in suitable doses, decoction of the Virginia snake root, infusion, or decoction of cinchona, to which the saturated lemon juice, or Riverius's draught was almost always added when the skin was dry. (p. 45).

To allay hickup, tremor, irritation, and nervous languor, musk, valerian, camphor, Hoffman's ether and laudanum were exhibited, very often the mithridate or theriaca, or in lieu of it, the old confectio cardiaca with, or without opium, was administered also.

Varieties of this fever of course demanded variety of practice. For example,—bilious typhus required the free use of emetics, and afterwards calomel, or other active purges; while the petechial typhus called for a liberal use of the mineral acids, and for larger doses of wine, which was found to be the best of all febrifuges.

Blood, even when the fever commenced with catarrhal symptoms and pleuritic pain, was seldom extracted, and even when venesection was resorted to, the quantity lost did not exceed ten ounces.

"It was seldom repeated a second time; and yet I have not seen typhus fever in all its forms more successfully treated than it was at that time. I have lived long enough to have witnessed many strange innovations in the mode of treatment, and I am sorry to add, that, judging by the results, they cannot be counted as improvements,—p. 46.

(To be Continued.)

MEETINGS FOR THE ENSUING WEEK.

Nov.	7, Monday,	Medical Society of London, 8 P.M.
		Entomological Society, 8 P.M.
	8, Tuesday,	Royal Med. Chir. Soc., half past 8 P.M.
		Zoological Society, half past 8 P.M.
	9, Wednesday,	Royal Medico Botanical Society, 8 P.M.
		Westminster Hospital Medical Society, 8 P.M.
	10, Thursday,	King's College Hospital Society, 8 P.M.
	12, Saturday,	Westminster Medical Society, 8 P.M.
		Mathematical Society, 8 P.M.

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[Exclusively compiled for the "MEDICAL TIMES," from French, Italian, and other Continental Periodicals.]

FRENCH.

CIVIALE, *Memoire, &c.*—Memoir on the Pathological Anatomy of Strictures of the Urethra.——BEGIN, L. S., *Mémoire sur l'Hémorrhagie, &c.*—Memoir upon Hæmorrhage, after the operation of cutting by the perineal method, with the best mode of treatment.——LACORDAIRE, TH., *Monographie des Erotyliens, famille de l'ordre des coléoptères*, 8vo. 9s.——LEFEVRE, AMEDEE, *Recherches Medicales, &c.*—Medical Inquiries to illustrate solutions of continuity of the stomach, called perforations of the stomach.——BECQUEREL, *Traité de Physique, &c.*—Physics considered in its relation with Chemistry and the Natural Sciences, 8vo. 7s. 6d.——DELESSERT, *Recueil de Coquilles*—Collection of Shells described by Lamarck, and not yet figured.——BREME, F. DE, *Essai Monographique, &c.*—Iconography of the Cossyphides, 1st part, 12s.——JAUBERT et SPACH, *Illustrationes Plantarum Orientalium*—A Collection of newly-discovered, or rarely-known Plants of Western Asia, folio, Livrs. 1 & 2.——*Considerations Génerales sur la goutte et les rheumatismes aigus, et chroniques, traites par une methode depurative vegetale aussi sure que facile.*—General Observations, &c.——BOUCHARDAT, A., *Nouveau formulaire magistral*, 18mo.—New Authorised Formula, &c. 3s. 6d.——RAMAUGE, *Observations Pratiques, &c.*—Practical Observations upon the cure of scirrhous and cancerous affections, without the employment of sharp instruments.

*** The French works above announced, may be had through Dulau and Co., Soho Square.

MEDICAL NEWS.

QUACK MEDICINES.—In the *Nottingham Journal* of last week, appeared two notices of inquests:—one on a child, who died in consequence of a dose of *Godfrey's Cordial* being administered to it by its mother, but without any evil intent; another on an infant, who, according to the medical evidence, died from convulsions, probably caused by the improper and incautious administration of a certain compound, called *Dale's Mixture*. Mothers ought to know and remember, that most of these advertised mixtures for children contain *laudanum*—a medicine which ought never to be administered to children, except by the express direction of a properly qualified medical practitioner. *Gateshead Observer*.

INSURANCE COMPANIES AND MEDICAL MEN.—At a meeting held at the Lion Hotel, Shrewsbury, on Tuesday Oct. 26th, Dr. H. Johnson in the chair, it was unanimously resolved by the undersigned, on the motion of R. Cartwright, Esq., seconded by W. I. Clement, Esq. That in unison with the resolutions of a British Medical Association, passed in 1837, the present meeting pledge themselves not to answer the enquiries of Insurance Companies, unless accompanied by a fee of one guinea.—Robert Cartwright, Thomas Jones Drury, M.D. James Bratton, William Onions, Sam. Wood, Edwin Foulkes, John Dickin, I. Y. Arrowsmith (for Wynne, Arrowsmith, and Stephens) W. J. Clement, Daniel Crawford, Henry Keate, W. Griffith, George P. Gill, C. T. Hughes Clarke, I. N. Heathcote, Secretary, Henry Johnson, Chairman. Mr. Piddock, Surgeon in the same district, has written to us, expressing his full agreement with the object of the institution.

GRATITUDE FOR MEDICAL SERVICES.—The inhabitants of Ballyshannon are about to erect a Monument to the memory of Dr. Crawford, late Superintendent to the Dispensary in that town. Subscriptions for this purpose have already been handed in to the amount of nearly £200. Dr. Simon Shiel has been elected his Successor.

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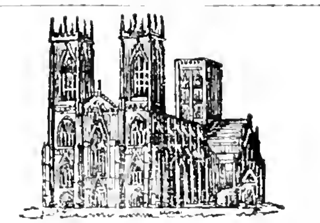

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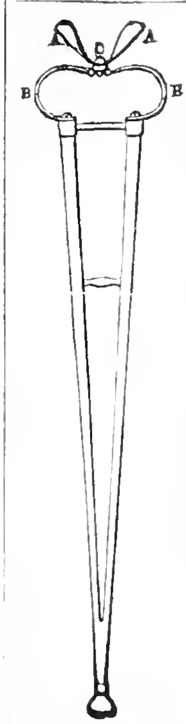

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A Journal of English and Foreign Medicine and Medical Affairs.

No. 161. Vol. VII. LONDON, SATURDAY, NOVEMBER 12, 1842. PRICE FOURPENCE. Stamped Edition, 5d.

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SUMMARY.

CASES OF PERITONEAL SECTION

FOR THE

EXTIRPATION OF DISEASED OVARIA BY THE LARGE INCISION FROM STERNUM TO PUBES, SUCCESSFULLY TREATED.

By CHARLES CLAY, Member of the Royal College of Physicians, London; of the College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence, &c. Piccadilly, Manchester.

(Continued from page 85.)

SUMMARY

From the conclusion of the first fifty-two hours to the end of the fourth day, when the wound was first dressed.

Temperature.—Kept about the same.

Pulse.—Increased in frequency, but kept soft and very compressible.

Tongue.—Kept very clean and moist.

General Surface.—Moist and Warm.

Urine.—Continued very free by natural efforts, nearly five pounds in the last forty-five hours.

Motions.—2 immediately after the clysters.

Thirst and Flatus.—Entirely absent.

Sleep.—The time passed in sleep was considerable; thirteen hours out of the last forty-five hours—or thirty hours out of the ninety-seven, from the commencement.

The last table shews the progress from the conclusion of the fourth day to the termination of the case. The item of temperature is now omitted, as unnecessary.

GENERAL REMARKS.	Sleep	Thirst	Motions	Urine	Surface	Tongue	Pulse	FROM THE CONCLUSION OF THE 4TH DAY TO THE TERMINATION OF THE CASE.
Broth from mutton ordered once in the day—a clyster to be given in the evening.	All night.	None.	None.	4 times ℥xxiv.	Moist.	Clean.	100 Very soft	Oct. 12th, 5 o'clock p.m.
Pulse less rapid, very soft—a motion had followed the last clyster, very copious.	Nearly all night.	None.	One after clyster.	3 times ℥xxi.	Moist.	Clean.	95 Very soft	Oct. 13th, 5 o'clock p.m.
Dressed the wound, all the sutures removed—wound requires but little dressing—ligatures not come away—For diet, more generous soups added.	All night.	None.	One natural in them.	Twice ℥xviii.	Moist.	Clean.	90 Soft.	Oct. 14th, ditto.
No restrictions as to diet—rapidly improving in strength—sitting up allowed.	All night.	None.	Two naturally.	Twice ℥xx.	Moist.	Clean.	85	Oct. 15th, ditto.
Wound requires little or no dressing—continues well.	All night.	None.	Two naturally.	Twice ℥viii.	Moist.	Clean.	80	Oct. 16th, ditto.
Continues well.	Slept well.	None.	One.	Frequently.	Moist.	Clean.	75	Oct. 17th, ditto.
Continues well.	Slept well.	None.	Two.	Frequently.	Moist.	Clean.	76	Oct. 18th, ditto.
Continues well	Slept well.	None.	Two.	Frequently.	Moist.	Clean.	74	Oct. 19th, ditto.
Continues well.	Slept well.	None.	Two.	Frequently.	Moist.	Clean.	76	Oct. 20th, ditto.
Considered as cured, calling only occasionally subsequently.	Slept well.	None.	One.	Frequently.	Moist.	Clean.	75	Oct. 21st, ditto.

ADDITIONAL GENERAL OBSERVATIONS.

The success of this second case cannot but be admitted as more remarkable and conclusive than the first. The advanced age of my patient, the numerous adhesions, the extensive ascitic deposit, and worn down constitution, offered but slight prospects of recovery; still the depression of her mind and the inconvenience of a burthen, accompanied with great pain, coupled with the positive assurances, that her case was perfectly hopeless, rendered even the smallest chance of life by operation very desirable. Under such circumstances, then, the proceeding was justifiable, and her perfect and rapid recovery only tends to confirm the views I have before expressed in respect to this operation. In my mind I feel convinced that in very many instances of apparently incurable ascites, ovarian disease has previously existed, which in fact is the exciting cause of the ascitic deposit. This second case, also proves the value of the simplest mode of treatment. One dose of mur. morphine immediately after the operation, two aperient doses of inspissated gall, and two clysters, being the whole amount of medical assistance, except the most rigid attention to diet prescribed, an equable temperature, and perfect quietness. Mr. Lizars attributes his success in the after treatment to timely bleeding, and certainly, I believe, there is little good to be done without it, the pulse must, however first indicate the necessity for it; in this case no blood was taken, the pulse never being otherwise than soft, and easily compressible; perhaps her advanced age might account for the want of energy in the circulatory powers; another proof of this was the remarkable fact already alluded to, that the pulse did not vary one stroke after the operation from what it was before. The tumour was freely injected with blood vessels; yet no vessels, either in the pedicle, or in any of its adhesions, required the ligature; and the blood lost during the operation was very trifling, certainly not two ounces. Throughout the case there was an extensive secretion of urine, which at all times passed without the assistance of the catheter. I did not interfere with her habit of smoking as she had been long accustomed to it, and seemed to derive a little pleasure from the indulgence. In both these cases the ligatures connected with the pedicles were brought out at the very lowest point of the external incisions, those of Mr. Lizars were (it appears from his plates) brought out about midway between the umbilicus and pubes; this is a matter of mere choice; for my own part, I fancied the ligature would interfere less with visceral movements by being brought out lower than otherwise, which was my reason for adopting it. It is impossible to reflect upon the nature of these cases without admitting how very improper it would have been to put in practice the recommendation of Mr. Jeaffreson. The adhesions and solid parts of the tumours, would have rendered such a mode impracticable; and the exposure of the viscera, with the effects of a large incision, are not more dangerous than a mere puncture without exposure, now, beyond a doubt, abundantly proved by the cases of Dr. Macdowal, Mr. Lizars, and myself. When the prejudices against the operation shall have subsided, there exists not a doubt but that it must, as a matter of necessity, be admitted as a perfectly legitimate operation, and justifiable in every stage of diseased ovaria. It is to be hoped, too, that these operations will convince surgeons that the great fatality attending many capital operations, where *the peritoneum is concerned*, consists in driving the case to extremes; by adopting various modes of relief (*which failing*) produce greater *peritoneal irritation*, than when the knife is made use of, and fatal inflammatory action is often the result. I feel little doubt in attributing many deaths,

subsequent to operations on the peritoneal sac, not to the undue interference with the knife, but to the means put in practice before the knife is resorted to, for instance, the manipulations of taxis in hernia. Take the peritoneum in its quiescent state, the knife can then be used with much less pain to the patient, and those operations, so often fatal, and if successful, so critical in their after treatment, will become seldom fatal and extremely simple in their subsequent treatment. I shall now draw my remarks towards a conclusion; perhaps they may be considered too lengthy, the importance however of the cases is such, that the omission of even the slightest particular, might be the means of leading others to wrong conclusions. For those who may not have leisure to attend to it, I have thought proper to add a statistical account of such cases as have been treated by both operations, spoken of in these remarks, and which I hope will speak volumes in favour of the large incision.

Small Incision as practised by

Dohlhoff,	Germany,	1 successful,	2 fatal.
Jeaffreson,	Ipswich,	1 successful.	
King,	Saxmundham,	2 successful,	1 fatal.
West,	Tonbridge,	1 successful.	
Phillips,	London		1 fatal.
		—	—
	Total,	5 successful,	4 fatal.

Out of the five successful cases, two, viz., one by Dohlhoff, and one by King were cut merely, there *being no tumour*, consequently no violence was done to the viscera: the cases being those of simple scalpel wounds.

The large Incision and Extirpation as practised by

L'Aumonier,	France,	1 successful.	
Dr. Smith,	Connecticut,	1 successful.	
Dr. Macdowal,	Kentucky,	3 successful.	
Mr. Lizars,	Scotland,	3 successful,	1 fatal.
Dr. Clay,	Manchester,	2 successful,	
		—	—
		10 successful	1 fatal

One of these successful cases was cut down upon, but no tumour was found, by Mr. Lizars. At the same time it ought to be stated that the fatal case (also by Mr. Lizars) had previously suffered from an attack of cholera, which, with equal probability with the operation, might be considered as the cause of death.

I have now faithfully detailed my own cases, and, as far as I could obtain them, the practice and opinions of others. I have endeavoured to shew, without prejudice to either, the comparative value of both operations. The puncturing of ovarian sacs I have not entered into, simply, because it is not a curative agency, but merely a means of temporary relief to be followed by still greater sufferings, with the certain prospect of a fatal termination. Even simple puncturing has been fatal in more instances than one. I am averse to puncturing, because it offers no hope of ultimate cure, and because at the places punctured, adhesions are effected, and by the alternate distention, and collapse of the sac, fresh adhesions are also formed in other parts.

The number of adhesions, however, can be overcome by the large incision with great ease; and experience tells me the patient may recover from the separation of them, however numerous; and that without a bad symptom even in an aged person. But such adhesions, or even a suspicion that they may exist (and I venture to say no man can tell where they are not to be met with before operation) must at once condemn the small-incision operation. Time, and a few more opportunities will settle this question, I am confident, in favour of the large incision. To have room to be enabled to see that no unnecessary mischief is done, is the true principle of the large operation. Lastly, the being enabled *to see* the state, not only of the parts contemplated to be extirpated but the connecting viscera, and that *in time to retrace our steps if necessary*, with having only the simple incision to heal again, is a circumstance that cannot attend the minor operation.

(To be continued.)

LECTURES ON CHEMISTRY.

By JOHN SCOFFERN, M.D., Lecturer on Chemistry, at the Aldersgate School of Medicine.

Having glanced casually in our last lecture at the principal theories of the voltaic battery, and having drawn your attention to some of its various forms, I left off, with a promise to investigate, when we should meet again, some of the chemical effects of voltaic electricity.

Before I do so, however, I must again caution you against being misled by the terms positive and negative, as applied to voltaic arrangements. It would seem (as I have before observed) that in a simple and compound voltaic arrangement, each being composed of zinc and copper, and acted upon by an acid, that in the simple arrangement the copper would be positive, and in a compound arrangement the zinc; because in the usual forms of such apparatus, each of these metals in turn is made to *emit* the current. But this is a mere casualty, dependent upon a convenient mechanical arrangement of the elements of the battery. Other arrangements might be employed which would make either element of the battery, at pleasure, either positive or negative, to use the terms in their common acceptation, a fact which proves, I think, that they should *not* be used. Surely the terms *emitting* and *receiving* would be more convenient, when speaking of voltaic arrangements, than positive and negative.

Having made these remarks, which seemed to me likely to prevent much future misunderstanding, we will proceed to examine the chemical effects of voltaic electricity. In the year 1800, it was discovered by Messrs. Nicholson and Carlisle, that when two wires, one proceeding from each terminal part of a compound voltaic series, were brought near together under water, the fluid was rapidly decomposed, and little bubbles of oxygen and hydrogen, its constituents, escaped; these by a very simple contrivance may be collected separately. Now it was observed that the gases in question were not eliminated from either wire indiscriminately, but that hydrogen escaped from the wire which received the electric current, or the negative wire, and oxygen from the other.

This was the first instance noticed of a body being decomposed by voltaic electricity; but other discoveries of a similar kind soon followed. It was found that certain saline bodies under similar circumstances were also decomposed, the acid invariably proceeding to the *emitting* or positive wire, and the base to the other. But the most brilliant discovery made by this agent, thus applied, was that of the compound nature of the alkalies and earths. Potash, for instance, one of the fixed alkalies, had been assumed hitherto to be a simple or undecomposable body, but Sir H. Davy separated it by the agency of voltaic electricity into a metal, called by him potassium, and the substance oxygen; of these, oxygen was liberated, as in the case of the decomposition of water, at the emitting or positive end of the battery, and potassium at the other. Precisely analogous were the results when the two other fixed alkalies, *soda* and *lithia*, were exposed to the same agency. All these were found to be metallic oxides. Encouraged by these results, Sir H. Davy proceeded to experimentalize on the earths, such as lime, magnesia, alumina, and others, to which they are more or less allied; these two, Davy proved to be metallic oxides, of which the oxygen was always eliminated at the *receiving* or positive wire, and their respective metallic radicals at the other. You may have remarked that hitherto, during these descriptions of voltaic decompositions, I have avoided using the terms *end* or *pole*, terms frequently employed in treatises on voltaic electricity, but which all, more or less, involve notions that are incorrect, and therefore improper. Every voltaic arrangement must afford some provision for a circulation of the electricity generated by it; in other words its action is in a circuit, and if this circuit be *effectually* broken, its very constitution as a battery is annihilated. If any part of the circumference of a ring were cut across, so that it no longer formed a complete circle, you certainly would not apply the terms *beginning* and *end* to the cut parts—the very words *beginning* and *end* of a ring convey an absurdity. I wish you then to be incapable of thinking of the beginning or end of a voltaic arrangement, however much the mechanical form of such an arrangement might seem to countenance the terms. I wish you moreover to remember, that although we speak of certain substances being acted upon, or decomposed, by a voltaic battery, yet those substances, in point of fact, are a part of the battery, that they are not merely acted upon or passive, but exert their own agencies in return, and correspond *with*, and are proportionate *to*, other actions taking place simultaneously in other parts of the arrangement. I am particular in mentioning these things to you thus early, because we are going presently to examine the theory of electro-chemical decomposition, as originating with Davy. Then Davy and *his* associates, think you, took care, for some reason not yet known to us, never to use the terms *end* or *pole*, as applied to voltaic arrangements, and moreover regarded the material acted upon in these experiments as forming a part of the voltaic series? Not at all. Davy and his associates did *precisely the reverse of all this*; so now I trust you will be prepared to follow me in detailing some of his experiments, and the results to which they led.

We have seen that oxygen and acids proceed, when substances containing them are decomposed by voltaic electricity, to the emitting or positive wire, and hydrogen, and bases, and metals, to the receiving, or negative wire. This result was invariable in every experiment hitherto noticed; and the more extended investigations of Davy led him to suppose that such was universal. Now why do oxygen and the acids always go to one wire more than the other?—why hydrogen, bases, and metals?—what force has voltaic electricity overcome?—why has it determined them to different sides?

Only one of these questions admits of an answer, apart from speculation. The force overcome by electricity, in either of these instances, is the force of chemical attraction, or affinity, the nature of which is not known, as I mentioned when speaking of affinity; but perhaps the very experiments under consideration will unveil the mystery. Thus thought Davy. Before I point out to you the leading points of those doctrines which Davy ultimately espoused, from a consideration of these results, let me call your attention to one of the most universal and best marked properties of electricity, as developed by the machine, attraction and repulsion. You are aware that any light body (say a pith ball) when electrified positively, will attract towards itself any other pith ball electrified negatively, and brought sufficiently near to it. This is universal, and it is a result just as universal, that when the pith balls have touched each other, they separate again. The former of these two phenomena Davy had in his mind when he speculated on the causes of voltaic decomposition, the latter by some unaccountable chance he happened to forget altogether; but let us now examine his celebrated electro-chemical theory. Davy imagined that the cause of chemical union was the agency of opposite electrical energies. He imagined, for instance, that the atoms of hydrogen were universally positive, and those of oxygen universally negative, hence, under propitious circumstances, they would approach each other, and unite, as in the case of the oppositely electrified pith balls; so far the analogy is good; but why they *remained* united, Davy's theory cannot afford any satisfactory reason; he assumed, however, this to be occasioned by a species of aggregation. Be this as it may, he attributed chemical union to the particles of different bodies being in opposite electrical states, and it follows, as a deduction from such a theory, that the elements of such a compound must necessarily be separated, if exposed to stronger electrical agencies than their own. Suppose, for example, that oxygen and hydrogen are united together in the fluid water, with a force equal to the sum of 2 and 2, or 4, being the amount of their own electrical energies. These two elements

should, theoretically, be capable of separation by a force equal to the sum of 3 and 3, which we will assume to be that of the wires,—*ends* or *poles*—as Davy termed them, of a voltaic arrangement. You will not fail to remember, then, that the assumption of chemical attraction being the result of opposite electrical states of the combining molecules, was the most prominent part of Davy's electro-chemical theory; from which it followed, as a matter of course, that all chemical compounds should be capable of decomposition into their constituents, provided we could act on them by a sufficient amount of opposite electrical forces.

Necessarily connected too with this theory, is the hypothesis of the terminal wires, being attractive agents, each soliciting those molecules of a compound which were in an opposite electrical state to its own; on which supposition, the terms *poles*, as applied to such wires, were not improper. Now however fascinating a theory may be, however well it is capable of embracing one class of facts, however great the name of its originator, we must not scruple to see how it stands the test of collateral scrutiny. Let us then try the celebrated electro-chemical theory of Davy by this tribunal. First, then, can its leading assumption, that all bodies which unite chemically are in opposite electrical states, be verified? Selecting the elements of water as our example, can it be proved that oxygen is endowed with innate negative, and hydrogen with innate positive qualities. As our most delicate instruments fail to recognise this, then why assume it?—you may ask. Because without this assumption, (Davy would have said) no rational explanation of voltaic decomposition can be given. But *this* is not rational, as we shall find. I have already pointed out the fact that the parallelism between the cases of the oppositely electrified pith balls, and the presumed oppositely electrified molecules, is not maintained. Davy imagined that another force came into operation; then it should be equally as active in the opposite case,—as of the disunion of molecules. But here we find Davy's theory of the agency of voltaic electricity just as much at fault. The positive wire *attracts* the negative oxygen, the *negative* wire the positive hydrogen; he assumed then each of these substances as *liberated*, whereas in order to be consistent with the other part of the theory, each ought to unite with the metal which attracted it, forming other chemical compounds, because the *other* force assumed by Davy as succeeding electrical attraction in the former case, should be equally applicable to this.

Then what is the result of all these discoveries of the weak points of Davy's theory?—you will ask me. Why that it is incorrect in its details. Ar not the particles of all bodies which unite chemically in opposite electrical states? It seems not. At all events we cannot prove it. Do you discard this theory without offering another?—do you deny the agency of electricity altogether in promoting chemical union? What a pity to annihilate a theory so brilliant—so apparently in accordance with many facts. Is it not possible we judge it too hastily, and have not yet thoroughly comprehended it? These, gentlemen, are, I know, amongst your thoughts. Let me answer these questions as well as I can. The authority of no name, however great, will warrant us in maintaining a theory whose tenets are proved to be incorrect; we have no better theory to offer, which proves our sincerity in rejecting this. We do not deny the agency of electricity in promoting chemical union, or *vice versa*; indeed, we can prove that chemical and electrical actions are always concomitant, and *proporti nate*; probably they may stand in the light of cause and effect, but this we cannot prove. In short, if we can summon humility enough to own it, we must say that chemical and electrical agencies are mysteriously associated, but how—*we cannot tell!* In my next lecture I shall point out to you certain other facts, relative to voltaic-chemical decomposition, altogether irreconcilable with Davy's theory, which, for the most part, were discovered by Dr. Faraday, and the importance of which have added another laurel to his brow. This philosophic candour compels us to see the very simple and beautiful creation of Davy dismembered and destroyed. A being of much loveliness, though frail, from which the enchanter's promethean fire darted forth to blind men's judgments, or warp them to it; will. But the enchanter is now dead, and his creature no longer able to maintain its sway, has fallen.

LECTURES ON THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM.

By Professor OWEN, F.R.S., &c.

We now finally come to consider the characters and progressive advances of the brain, in the mammiferous class of animals, where it reaches its highest development in man. In no other class of animals is the series of steps by which the organ mounts, as it were, to perfection, so extensive,—in none is the contrast between the highest and the lowest condition of it so great.

In the preceding classes of oviparous vertebrated animals, the marked and most tangible inferiority of the brain has been rather the transverse connecting apparatus than in the relative proportion of the cerebral hemispheres to the entire body. We have been able to trace, in birds, filamentary anterior and posterior commissures, and likewise a soft commissure:—we have seen in them a fornix, but of the corpus callosum, or great commissure, as it is termed, there has been no trace.

The mammalia, in which we might expect to find the lowest condition of the cerebral organs, are those that most resemble the ovipara in their mode of generation, and in the limitation of their intelligence. In the carnivorous marsupial animal, the Dasyure, you observe the brain to consist of the same exterior masses as in the crocodile; and these masses succeeding each other singly, or by pairs, in the same linear series. The spinal chord, expanding into the medulla oblongata, there supports a small cerebellum transversely folded, as in birds, but with rudimental lateral parts, or hemispheres. Anterior to the cerebellum, are the optic lobes, or nates, and in front of these lie the cerebral hemispheres, equally smooth and devoid of convolutions. The ventricles of these hemispheres present, however, large and conspicuous hippocampal prominences, anterior to which are the small corpora striata. The medullary fibres of the fornix are, like the hippocampal, more developed than in birds, and form a transverse commissure, uniting the hippocampi, as well as a longitudinal commissure connecting the same parts with the anterior lobes. There is a large, round, anterior commissure, many of the fibres of which connect together the olfactory lobes—those prominent masses anterior to the hemispheres. The supra-ventricular masses of the cerebrum have no transverse commissure, no corpus callosum. This low condition of the brain characterises all the marsupial and monotrematous mammalia; i.e., all ovoviviparous or implacental mammalia.

But there are grades of development in this section of the class. Thus, the wombat and the kangaroo have a few simple foldings of the cerebral substance. The hemispheres of the cerebellum are likewise, in these, more developed, and also possess pedunculate appendages. That broad band behind the optic lobes, in birds, has become narrower transversely, thicker in the vertical direction, with a slight superior convexity, and a median longitudinal division, forming the second pair of bigeminal bodies, or the testes. But this state of development can scarcely be recognized in the Ornithorinus, which differs little from birds in this respect. The testes are first clearly developed in the Marsupialia.

At first sight, the brain of the rat, the rabbit, or the squirrel, would seem to be inferior in organization to that of the Echidna, or kangaroo; but if you slice off a thin layer of the cerebral hemispheres, you will expose a broad and well-developed corpus callosum, beneath which is the hippocampal commissure, together with the anterior, posterior, and soft commissures. All the parts of the connecting apparatus of the brain are now established, and henceforth only differ in relative size.

The cerebral hemispheres progressively increase as we pass from the orders rodentia, chiroptera, and edentata, to the carnivora, the ruminants, the pacaderms, the quadrumena, and the cetacea, to man. The extent of the superficial vascular cineritious matter of the hemispheres is increased in the same gradation, chiefly by the progressive number, depth, and complications of the folds and convolutions.

A symmetrical arrangement, more or less regular or complex, can always be traced between the foldings of the two hemispheres, and the more regular in proportion to the simplicity of the convolutions; the foldings of the cerebral substance follow likewise, both in the embryonic development of a complex brain, and in the progressive permanent stages presented by the mammalian series—a regular determinate law; some convolutions being more constant than others, and these being traceable through the greatest number of brains, and recognizable even in the human brain, where at first sight they are obscured by so many accessory convolutions.

[The lecturer then demonstrated, in a considerable number of prepared brains of different animals, and in a large series of diagrams, in which the corresponding convolutions in the brains of different animals were marked by the same colours, the facts establishing this important generalization.]

With respect to the optic lobes, these appear to undergo an arrest of development in the mammalian class; or, in other and truer words, they maintain their ordinary relations of size with the optic nerves and visual organs. In the ruminants, which have large staring eyes, the optic lobes, or nates, are larger than the testes, especially in the giraffe. The testes, which seem to be developed in relation with the presence and large size of the lateral parts of the cerebellum, do not present the same variation of size as the optic lobes, and, consequently, have a larger proportionate size in the carnivora, than in the ruminants. In all mammalia, the optic lobes are solid.

The cerebellum increases in importance chiefly by the preponderence of the lateral masses, which conceal the median and vermiform processes in the cetaceous, quadrumenous, and human brains. The pons varolii, like the posterior bigeminal bodies, coexists with the lateral hemispheres of the cerebellum, and presents the same ratio of development. It is, consequently, another peculiarity of the mammalian brain. The fourth ventricle is no longer continued into the cerebellum. The third ventricle continues to be connected, by an infundibular process, with the pituitary gland; but the pineal gland, which is solid and much shrunk in size, is now attached by two pedicular processes to the thalami. The lateral ventricles are continued forwards, in most of the lower mammalia, into the substance of the olfactory bulbs.

As the cerebrum increases in height, the corpus callosum becomes progressively separated from that part of the fornix constituting the hippocampal commissure, with which, however, it is connected by a thin median vertical curtain, called the septum lucidum. This consists of two parallel walls, including a cavity called the fifth ventricle, which only exists in the higher mammalian orders.

The cerebral hemispheres progressively augment in length, cover first the optic lobes, then the cerebellum, and in man project beyond the cerebellum. Some birds have heavier brains in proportion to their light bodies than man. Some mammalia, as the whale and elephant, have absolutely larger brains than man, but no animal has so large a cerebrum in proportion to the spinal chord and nerves.

The lecturer then adverted in feeling terms to the severe and irreparable loss which science had recently sustained in the great physiologist Charles Bell, to whom the world was indebted for the deepest insight into, arising out of the most brilliant discoveries of, the nervous system, and concluded by expressing his thanks for the kind and patient attention with which his illustrations of that part of the Hunterian museum relating to the nervous system, had been received.

ROYAL COLLEGE OF SURGEONS, LONDON.

List of gentlemen admitted members on Friday, Nov. 4th, 1842.

H. Challinor, B. K. Johnson, J. Thompson, C. E. Prothero, W. Higgins, H. Marder, E. Jay, A. Ebsworth, R. B. Walcott, W. H. Hay, R. Jones.

SECALE CORNUTUM.

To CHARLES CLAY, Esq., M. D.

SIR,—Until the 1st of this month I had not seen a number of the MEDICAL TIMES,—consequently, have not, as yet, seen your remarks on the secale cornutum in the number for Sept. 3d; but, from the letter addressed to you by Mr. J. Ridout, I was almost induced to make a few observations prior to your answer to the enquiry contained in your extract of the letter, and which has appeared in the number of last week. For my own part I have great confidence in the ergot, and have tried it in tincture, powder, and decoction, and of the three most decidedly prefer the latter. It is now rather more than fourteen years since I first commenced using it, and, like many others who had preceded me, I fell into the error of administering it at periods when the uterus was not in a fit state for its exhibition; by which means I several times had the mortification of finding that a labour which might have gone on well (had I kept the ergot in my pocket and allowed Dame Nature to have her own will) was converted into one of a tedious and protracted kind, and I had the penance of additional hours of anxiety and watching, besides putting my patient to a great deal of unnecessary pain. I believe some practitioners are too apt to exhibit the remedy solely with a view to get away from their patients as quickly as possible, and frequently, by an untimely administration of it, frustrate their intention, and, in addition to a protracted labour, meet with an hour glass contraction and retained placenta. Years of experience have, I hope, given me wisdom in that respect, and I now place the greatest reliance on its virtues, and when *recently* prepared and *judiciously* given, it seldom fails to gratify the practitioner by the fulfilment of his wishes. The plan which I have for some years adopted has been, to have some *fresh* and *finely powdered* ergot put in a *closely stoppered bottle* containing three doses of the medicine, and, as the bottle is *graduated*, I have no difficulty in taking out the proper dose (2 scruples) which I boil for about the time you name (five minutes,) and exhibit *not only the decoction but the powder also*, by which means I think its virtues are more fully obtained, and, as the powder is so very fine, it is swallowed without annoyance to the patients. I generally prepare but one dose at a time, in order that the whole may be taken, and where I have expected it probable that a second might be required, I have prepared it shortly after giving the first; I therefore agree with you, that there can be but very little time lost, if any, in preparing the decoction, and, however urgent the case, such preparation appears most suitable for exhibition. In general, practitioners in the country are indifferent as to the manner in which they keep the ergot; some allowing it to remain in paper and in a situation exposed to damp, by which means it is deprived of its activity, and when it most is required too often leads the medical man to underrate its virtues as a remedial agent in obstetrics. Your mode of keeping the doses in pieces of sheet lead offers a hint to many practitioners, who no doubt will take advantage of it, particularly those who have been in the habit of carrying it about in the waistcoat pocket in no other covering than that of paper.

I am, Sir,

Your obedient servant,

HENRY GELLWOOD.

[illegible]

CAUTION TO MEDICAL MEN.

To the Editor of the 'Medical Times.'

SIR,—A few days ago a very fine man, (Scotch man, (save the mark!) called upon me, and after introducing himself as an invalid from India, who had just returned, and in fact disembarked only a day or so previously, begged I would undertake his cure. "I live close by," says he, with a winning, domesticated sort of familiarity; "over there;" says he, pointing with a ready thumb, somewhere toward the North Pole. I wish I knew exactly where. A policeman, I should tell you, called a day or two before, to warn all her Majesty's loyal medical and chemical subjects of a *youth man* going round with a sprained thumb to get advice, who, when the doctor's back was turned, contrived to use the fingers at any rate, and quietly pocketed any thing worth his while. Did you ever know the like? We so abound in silver and gold, and precious stones; there is such a plenty amongst us!

However, I eyed him narrowly in consequence, and observed, that his countenance was exceedingly fair to look upon, bless him! but I said nothing. I fetched him a chair, and planting it secundem artem right opposite the perineum, prevailed on him to be seated where he was without going into my surgery. To make a long story short, sir, I nailed him there till he took his departure; I engaged to prepare the necessary medicine for his complaint, an alleged tightness—where do you suppose, sir? Not in his head, nor yet in his belly; but, in his chest, but he never returned, though he promised faithfully to come for the physic as soon as he came back from the Docks, where his luggage and money, indeed, all his earthly treasures, were. The design of this, is, in case you think with me this youth was, and is, and wished to be a rogue, that you might warn all our society to keep the overflowing wealth, with which we are so grieviously afflicted out of the way of all Caledonians:

——— quanquam dorcis lentes.

He is a very fine man, taller than myself, and that's, speaking very highly of him, has a very sweet countenance, sandy hair, and wears mustachois.

I have the honor to be, sir, &c.

B.

P.S.—Pray sir, can you tell me which do, Parr's Pills or Cockle's (or if any of the rest of them be better) bring on miscarriage the sooner: the nursery, and other maids all about here use them so much that they smell to me exceedingly suspicious.

London, Oct. 26, 1842.

CURE OF DEAFNESS, PRODUCED BY ENLARGEMENTS OF THE TONSILS.

By WILLIAM THORNTON, Army Surgeon, M.R.C.S.

(For the 'Medical Times.')

Aug. 5th, 1842.—Miss P., a young lady, 11 years old, residing in London, consulted me on account of *deafness*. Very delicate state of health, and her general appearance such as to indicate a taint of scrofulous deitheses;—has been deaf about four years, in consequence of measles. Upon examination of the meatus externus of the right ear a purulent discharge, very offensive and the external thickened, the meatus dry and some hardened wax, which was removed by syringing into the ears. The membrana tympani of both ears healthy—could only hear my watch at two inches from each ear. On examining the fauces, found the tonsils very much enlarged and extending so far towards each other as to be within a line of their touching.

They felt hard to the touch, it appeared that she suffered about four years before from measles and inflammatory sore throat, upon recovering, she became gradually more and more deaf, in which state she has continued ever since. I prescribed friction with ung. hydrarg. iodidum, upon the external fauces, and a solution of zinc applied to the walls of the meatus and argent. nitrat. applied to the tonsils. Decoct. Sarsae. concentrated with potassae iodidum, internally; aperient powders taken twice a week. By persevering, under this treatment, with iodidum potassae, and the use of lunar caustic the tonsils recovered their ordinary size, her hearing function daily improved, and is now so acute and perfect, that she can distinguish my watch at three yards. I merely look forward to a certain change in the economy of the female constitution, which, when it occurs, I have not the least doubt, will bring with it a perfect cure of the tonsillary tumours, and that the hearing will continue in its perfect state.

The tonsillary enlargements inducing deafness, by interfering with the integrity of the Eustachian tube, and keeping up morbid condition of their and the tympanal cavities, is from its position often more palpable to the touch than the eye. For this reason the surgeon should always examine the tumours with his finger, &c.

P.S.—Cured in the course of a month.

31, Baker street, Portman Square,
7th November, 1842.

CURABILITY OF CONSUMPTION.

To the Editor of the 'Medical Times.'

SIR,—Having perused, in your excellent publication, several interesting cases of consumption, cured, contrary to the opinions entertained by the late Dr. T. Davies, who prescribed for them, permit me to add to the number two others, no less interesting than those which you have already given.

The mode by which recovery was effected in the first of the instances I am about to adduce, you will agree with me, was extraordinary—and even unprecedented; for it was occasioned by the suicidal attempt of the patient to deprive himself of life by cutting his own throat. The second is a case where a deposit of tubercles, situated over the third and fourth ribs of the left side, was liquefied; and, the breast becoming simultaneously inflamed by sympathy, the matter, from both sources, formed for itself a passage into the cavity, which the above named physician, and Dr. Ramadge had ascertained to exist on the summit of the left lung. Proceeding with the first case:

William Bell, aged 52, coach-maker, entered the Infirmary for Diseases of the Chest, as an in-patient, on the 11th November, 1837, labouring under symptoms of catarrhal asthma, which had existed for some years, but which, until a short period before his admission, did not prevent him from following his daily avocations. He mentioned that in 1827, he had had the advice of Dr. T. Davies, whilst labouring under a severe cough, perspirations, hæmoptysis, &c., and, after an examination of the chest, he was pronounced consumptive. A short time previous to receiving this intimation, he had been induced to risk his entire savings upon a prize fight, he having himself been a pugilist, and scarcely had it been announced that a vital organ was attacked by a formidable disease, before his fortune also received a shock by the defeat of the party on whom he had betted, and the consequent total loss of all his property. The event was, he committed the act of desperation before mentioned. This attempt to destroy life became the means of prolonging it for ten years, for, by a series of phenomena, the consumptive symptoms were thereby dissipated.

Soon after this he recovered by surgical aid, and it became his practice to conceal the mark of his wound with a piece of flannel. When Dr. Ramadge, in spite of the patient's ingenuity, discovered the cicatrix, and thus became acquainted with the fact of his having attempted suicide, he found, on examination, that, in breathing, when the patient *inspired*, a slight protrusion took place where the wound had been—which was between the first ring of the trachea and the cricoid cartilage; and, that in the act of *expiration* a small portion of the anterior part of the circle of the former, passed within that of the latter. The impeded expiration, the result of the obstacle just mentioned, caused, in process of time, the lower lobes of the lungs to be exceedingly enlarged, which was indicated by auscultation, as well as by an ocular inspection of the chest. Beneath and above the clavicles there were, however, the marked depressions, such as we find in phthisical persons. The action of the heart having been interfered with by the emphysematous state of the lower lobes, and displaced by the highly voluminous condition of the inferior lobe of the left lung, he became dropsical, and entered the Infirmary as an in-patient. After various remedial attempts to relieve the gorged state of the venous system, and the visceral disorders, its never-failing consequences—aggravated not a little by former habits of intemperance, he succumbed to internal effusion.

Dr. Ramadge in the early part of the treatment tried to render the expiratory powers more effective by the mechanical process he so successfully employs in establishing the wholesome relation between inspiration and expiration, or, in other words, in bringing about the natural proportion

that should exist between the windpipe and the lungs. But, in this case, there was a physical impediment, which no skill nor contrivance could overcome, for the first ring of the trachea was constantly standing in the way of the expired air.

Dissection of the body a few hours after death, shewed the upper lobes of the lungs to be contracted, indurated, and studded with innumerable tubercles of various sizes, generally small, and semi-transparent when divested of the black pulmonary matter surrounding them. Cicatrizations of different forms were therein observable, and the investing membrane of the tuberculated summits was thickened, partly cartilagenous, and adherent throughout to the opposite serous surface. The other lobes of the lungs were hypertrophied and emphysematous in the highest degree. The alteration noticed in the contour of the chest is easily accounted for by the condition of the inexpansible summits of both lungs, and the greatly enlarged state of the vesicular structure everywhere else.

This is an instructive case, as it illustrates the correctness of the view that whatever serves to expand the lungs, removes the tendency to form tubercles, and alters entirely the scrofulous diathesis. Had the patient lived, the greater portion of the tubercles found on dissection would have disappeared by absorption. After the manifestation of catarrhal asthma, all the phthisical symptoms had disappeared.

To come to the second case:—Mrs. Levi, residing in Bevis Marks, and the mother of a large family of young children, was, in the early part of the summer of 1838, visited by Dr. T. Davies and another physician, at the request of Messrs. Canstat and Dyte, her usual medical attendants. For some months she had been troubled with severe cough, purulent expectoration, hectic fever, and the other external signs of consumption. Her chest, which had undergone much contraction, was stethoscopically explored by the above-named physician, and pronounced to contain a cavity of no small extent in the superior lobe of the left lung. At this period a flattish substance of irregular form, between two and three inches in its longest extent, and which, from the absence of uneasiness, attracted but little attention, appeared superiorly to the upper circumference of the left breast, and adhered firmly to the muscles over the third and fourth ribs. The eventual occurrence of pain hereabouts, and the phthisical symptoms having increased, notwithstanding a change of air had been tried, induced Messrs. Canstat and Dyte to call in Dr. Ramadge. Accompanied by them, he saw her at Greenwich; and, after satisfying himself that, besides the constitutional symptoms of consumption, she had disease in the summit of both lungs, and a well defined excavation, as previously ascertained, he opined the indurated mass on the exterior of the chest to be a tuberculous deposition.

Having prescribed for the most urgent symptoms, and advised inhalation, with a view to defeating further contraction of the chest, which, from long experience, he knew would be followed by fresh crops of tubercles in the lungs, as well as the dangerous secondary affections, such as diarrhœa, ulceration of the larynx, &c. which so frequently follow the descent of the disease into the inferior lobes, he pointed out the possibility of a solution of the exterior tuberculous mass taking place. At the expiration of more than a month the attendance of Dr. Ramadge was again requested. During his absence the tuberculated mass liquified, and caused a sympathetic inflammation of the entire of the left breast, terminating in suppuration. —To relieve the painful distention, and allow the escape of matter, a puncture of the breast was proposed, but the courage of the patient failed, and a postponement to the following day intreated.

The same night, under a sense of great difficulty of breathing, she felt something to pass into her chest. This was instantly followed by uncontrollable cough, and an abundant discharge of fœtid expectoration. She continued coughing and expectorating, almost unceasingly, for ten hours, and brought up in this time more than two quarts of pure pus. Regretting the result of her opposition to the lancing of the mamma, she willingly submitted the next day to having it performed by one of the surgeons of Guy's Hospital. As soon as an incision was made near the nipple of the breast, a great quantity of matter, followed by air, rushed through the opening. The air came from the cavity in the top of the left lung, into which two quarts at least of puriform matter had spontaneously burst from the outside of the chest.

Two days after the surgical vent had been given, Dr. Ramadge carefully explored the chest, and explained that the air, with some of the matter, emanated from the cavity whose existence had before been announced. It was singular to witness how, at the will of the patient, the aerial fluid escaped from the wound with a hissing noise! In a few weeks she ceased to discharge from the mamma any kind of fluid; the respiratory murmur was considerably augmented, and the presence of a cavity no longer discernible. She has since had two children, enjoys good health, and, owing to the disease disappearing in the summer season, she is without any catarrhal complaint whatever. Dr. Ramadge has had leave from the family to introduce some foreign and other medical men, in order that they might be satisfied of the completeness of the recovery.

This extraordinary and interesting case recovered in consequence of the free communication between the surface of the body and the cavity of the left lung, which, whilst it allowed the free escape of the air from the cavity, permitted a general enlargement of the pulmonary tissue to take place, and, in this way, obliterated the cavity.

DISCIPULUS.

REMARKS ON THE EXCITATION OF THE ORGANS DURING SLEEPWALKING.

By T. S. Prideaux, Esq.

DURING my first successful experiment in mesmerism in October, 1841, my attention was excited by observing that some passes opposite the anterior part of the head, were followed by a fit of laughter, and in my notes made after the sitting, I inserted the two following queries, "Can individual cerebral organs be mesmerised?" "Did the laughter proceed from my mesmerising the head in the region of hope, ideality, and wit, or was it the result of the laughter I had just been indulging in, from seeing the insensibility of the patient to pricking, &c."

During two or three subsequent sittings, I made several attempts to excite individual organs with but very partial success; on one occasion a fit of crying followed my operating upon adhesiveness, the patient saying she was crying about her friends, but as during the sitting she had in imagination been present with her brother at sea, whom she had not seen for some years, I did not feel at all satisfied that the crying was the result of my operating on adhesiveness.

About this period circumstances led me to form the conclusion, that the power of reading the thoughts of the operator, is a faculty much more easily developed in the mesmeric patient than is generally supposed, and from this moment, I lost all confidence in any result I might produce by acting on the organs, considering it impossible to assure myself that the phenomena manifested, were not the result of a species of acting on the part of the patient, and I laid aside the enquiry as one which though most worthy of investigation, could only be satisfactorily prosecuted, by an operator and patient, both ignorant of phrenology, and having no *preconceived ideas* as to the phenomena to be manifested.

The publication of the experiments of Mr. Mansfield and Mr. Gardiner, in this country, and Dr. Buchanan in America, induced me again to direct my attention to the subject, and the result is that from the extreme vividness with which some of the faculties are manifested, but more especially from the fact of feeling being capable of being restored to activity, and again paralyzed at pleasure, I have come to the conclusion that the phenomena cannot with probability be referred to acting, and I now feel bound to avow my belief in the power of the mesmeriser to excite in certain cases, special organs in the patient. This being granted, it becomes a question of absorbing interest to the phrenologist, whether this new agent can be made the means of extending the boundaries of his science,—by more accurately defining the limits of the organs at present known, and discovering the localities of new ones.

The circumstance that by placing a finger over the seat of an organ and willing to excite it, the organ becomes active, was certainly calculated to excite the most sanguine expectations, but a further investigation of the conditions under which the phenomena take place, leads I fear to the conclusion, that Nature is more chary of her secrets than to allow them so easily to be wrested from her, and that no such royal path to knowledge lies open to us. Calling to mind the fact that in many cases the mesmerizer possesses the power of putting parties "en rapport" with his patient by the word of command, I was induced to suspect that volition had much more to do with the excitement of the organs, than the application of the fingers to their surfaces, and experiment soon convinced me not only that it was not necessary to touch the seat of an organ to excite it, but that it might be excited without touching the head at all by a simple act of volition.

Without then either denying, or admitting, that faculties may be excited with greater facility by contact with their surfaces, than by an act of volition alone, I think I am warranted in asserting, that the mere fact of their being capable of being excited at all, without any contact, or operation directed towards their seat, is sufficient to invalidate any evidence in support of the localities of organs drawn from such a source.

Briefly to recapitulate the conclusions at which I have arrived, they are.

That special organs of the patient are capable of being called into action by the agency of the mesmerizer. But that as these organs are capable of being excited, not only by touching their seat, but by touching any part of the head, or even by a simple act of volition, without touching the patient at all, no conclusive evidence can be drawn from such experiments as to the locality of the cerebral organs, and that though the operator, by an act of volition, can, on certain occasions, and in certain patients, excite a discriminate faculty at pleasure, we have no good ground for concluding, that by operating on a part of the head, the function of which is undiscovered, and willing to excite the particular unknown faculty attached to it whatever this might be, such unknown faculty would be called into action, and its discovery effected.

CALCULI ESCAPING THROUGH THE PARIETES OF THE ABDOMEN.

To the Editor of the 'Medical Times.'

SIR,—The following particulars of a case of biliary calculi escaping through the parietes of the abdomen are, I think, deserving a place in your valuable periodical.

Mrs. J., a widow about 50 years of age—the mother of several children, after enjoying excellent health for a number of years, while assisting at a large dinner given at her hotel on the 1st March, 1841, without any premonitary indication whatever, was suddenly attacked with a violent pain in the right hypochondrium, extending to the clavicle and top of the right shoulder, with other symptoms of hepatic derangement. Thinking these arose from flatulency, she took a little spirits and warm water and went to bed. The pain, however, continuing, she sought medical assistance, and notwithstanding the application of blisters and leeches, and the exhibition of the various remedies adopted in affections of the liver, she got no better. At length an evident fluctuation was discovered just below the last floating rib immediately over the original seat of pain, and ultimately, an abscess formed and burst externally, discharging a quantity of impure pus. On the 1st September following, a small calculus appeared in the orifice, and in a few days afterwards several others emerged, so that up to the present period above 150 have escaped, one of which I enclose for your inspection. The sinus still remains open, and calculi varying from the size of a millet seed to that of a small nut, continue to be discharged. Her general health does not at all appear to suffer, though before every fresh es-

capement of calculi severe, pains are felt over the region of the liver.

If you get the specimen analyzed, I should feel obliged by your publishing an account of its component parts. They are of precisely similar appearance.

I am, Sir,
Yours obediently,
W. THOMAS,
Surgeon.

Pembroke Dock, South Wales,
28th, October, 1842.

THE MALPRACTICE OF MIDWIVES.

(To the Editor of the 'Medical Times.')

SIR,—From the fearless and just manner in which you advocate the dignity and rights of the profession, while certain magnodipment doctors would be cutting us up in ten thousand pieces, like a Chinese mandarin convicted of high treason, I beg to solicit a corner of your valuable paper, in order to, expose, as fully as I may be able, a system of quackery more dangerous to the victims than that of St. John Long, or the very celebrated president of the British College of Health—Mr. Morrison of vegetable notoriety. The evils to which I allude are the malpractices of female accoucheurs, *alias* midwives. The case in point to which I advert happened in Aberdeenshire about two months ago; and the particulars of which have been communicated to me by a professional friend residing in that part of the country.

A married woman was, after the ordinary period of gestation, seized with parturient pains and the common symptoms of labour, which progressed favourably for a period of twelve hours, at the end of which a healthy living child was born,—and so far all was well; no professional assistance being required. A female accoucheur had charge of the case, and this woman, finding at the end of half an hour that the attachments of the placenta had not separated from the interior of the uterus, introduced her hand per vaginam, and forcibly pulled away the whole mass; the consequences of this violent proceeding was immediate prolapsus uteri. The rectum did not escape its share of the violence; and the poor woman, in addition to prolapsus uteri, has ever since laboured under prolapsus ani. It is now two months since the period of parturition, and she was found in the above state by my professional informant about two days ago.

The audacity of the *soi disant* female accoucheur is not so much to be wondered at, as the pusillanimity of the profession in not judiciously exposing the errors of ignorance on the one hand, and those of credulity on the other, for the benefit of the public. The north of Scotland, perhaps more than any other part of the island, swarms with female accoucheurs of the above stamp, who go forth upon the public, having their craniums pedantically illuminated by six weeks attendance on midwifery lectures, given in some provincial school to the slow-timed tune of three in the week. I am informed also that no professional man in any small country town in Aberdeenshire dare fall out with these female charlatans, without risk of suffering in reputation and professional emoluments; this is petticoat government with a vengeance! and proves, without doubt, that there are many old women in the profession who wear breeches. Sir, when shall we obtain those salutary reforms of the profession for which the more manly portion of it has been struggling, and the more prejudiced part opposing, for these last ten years; if we be afraid of exposing, for the sake of the bread and butter which so many of us unworthily consume, the ignorance, the audacity, and contemptuous presumption of a set of females practising without licence or professional skill. So long as the different schools of this realm are endowed with different privileges, and the members of one are favoured in comparison with those of the other, and so long as a jealousy exists amongst us as individual practitioners, so long will it be easy for quackery to prolong her dynasty, and reap the golden fruit of our dissent. The profession seems, as yet, ignorant of its real interests; and while we are squabbling amongst ourselves, the enemy is taking the advantage. Each corporate body is struggling to support its ancient, and even to acquire additional privileges; looking after the benefits of a part, whilst it should endeavour to secure the interests of the whole. We would do well to imitate the states of ancient Greece, when a foreign enemy threatened invasion of their sacred territory, to forget, for a time at least, all private animosities and turn out to a man, in order continually to apply to the legislature, until we shall have procured a bill that shall eradicate at once and for ever, the whole system of quackery, whether it be male or female, from the soil.

I am sorry to be under the necessity of animadverting so severely upon any portion of the sex; but when one part of them becomes the victims of another, it behoves every one who is cognisant of the fact, to interfere and espouse the inquiry,—in order that the public at large may see their true interests in employing properly qualified persons in any medical capacity whatever.

I am, Sir,
Your humble and obedt. servt.,
WILLIAM SMITH, Surg.

BACHELOR OF MEDICINE.—SECOND EXAMINATION. 1842. Nov. 7, 8, & 9.

GENERAL PATHOLOGY, GENERAL THERAPEUTICS AND HYGIENE.—*Examiners*, Dr. Billing and Dr. Tweedie.—1. Describe the local phenomena of inflammation, or the changes which take place in an inflamed part. Give an outline of the essential nature of inflammation.—2. State the indications to be kept in view in the treatment of dropsy.—3. Describe the specific effects of the emanations arising from stagnant water on the human body; and mention the measures best calculated to counteract their pernicious influence.—4. Translate the following passage into English.—At vomitus, ut in secundâ quoque valetudine sæpe necessarius biliosis est, sic etiam in his morbis, quos bilis concitavit. Ergo omnibus, qui ante febres horrore, et tremore vexantur; omnibus, qui cholerâ laborant; omnibus etiam, cum quâdam hilaritate insanientibus; et comitiali quoque morbo oppressis, necessarius est. Sed si acutus morbus est, sicut in cholerâ; si febris est, ut inter horrores, asperioribus medicamentis opus non est; sicut in dejectionibus quoque suprà dictum est: satisque est, ea vomitus causâ sumi, quae sanis quoque sumenda esse proposui. At ubi longi valentesque morbi febre sunt, ut comitialis, ut insania, veratro quoque albo utendum est. Id neque hieme neque æstate recte datur; optime, vere; tolerabiliter, autumno. Quisquis daturus erit, id agere ante debet, ut accepturi corpus humidius sit. Illud scire oportet, omne ejusmodi medicamentum, quod potui datur, non semper ægris prodesse, semper sanis nocere.—*Celsus*, lib. ii. cap. xiii.

SURGERY.—*Examiners*, Mr. Bacot and Sir Stephen Hammick.—1. How would you dress, place in position, and subsequently treat, an extensively incised wound of the Integuments and Muscles, on the anterior middle third of the Thigh? How does such treatment differ from that you would pursue in a lacerated, in a contused, and in a deep-punctured bayonet-wound of the same part? Give your reasons for your management of each respectively.—2. What are the symptoms and appearances in an acute inflammation of the Integuments of the lower extremity which would induce you to think that it would either terminate in resolution, in suppuration, in ulceration, or in mortification? State the foundation for such opinion.—3. Describe the various dislocations of the Elbow-joint, how they are detected, the appearances of the limb, and the mode of reduction.—4. In an Amputation of the Leg, supposing you had the choice of the whole space between the knee and ankle-joints whereabouts would you begin your incision? Give your reasons for such preference; then detail the instruments and dressing you are likely to require, describing every step of your operation; the position of yourself and patient whether it be a right or a left limb; the stoppage of the circulation, whether by tourniquet or otherwise; the incisions; the mode of using a retractor; the sawing of the bones; the securing the arteries, whether by tenaculum or forceps; or if you should require the needle, how it is to be used, the restraining bloody oozing from the cut surface in debilitated constitutions; the dressing of the stump; position in bed; time of renewal of the dressings; the removal of ligatures; and subsequent management of the patient.

PHYSIOLOGY.—*Examiner*, Professor T. Rymer Jones.—1. Describe the mechanical, chemical, and vital properties of Muscular Fibre.—2. What are the propelling agents employed in effecting the Circulation of the Blood during its passage through the venous system?—3. Describe the circulatory and respiratory organs of a Crustacean (*e. g. Lobster*), and of an Insect; and point out the principal differences between them.—4. Describe the structure of the stomach of a Ruminant Quadruped and the process of Rumination.—5. Describe the minute structure of the Liver of a Mammiferous animal, and the nature of the Biliary Secretion.—6. Describe the structure of the compound eye of an Insect.

FORENSIC MEDICINE.—*Examiners*, Prof. Daniel, Dr. Pereira, and Dr. Rigby.—1. What are the advantages of Marsh's process for the detection of Arsenic? and what are the sources of error to be guarded against?—2. How would you proceed to test for Corrosive Sublimate in the contents of a stomach, in a case of suspected poisoning?—3. What are the symptoms and most appropriate treatment of poisoning by Oxalic Acid? What is the average period of death after the ingestion of large doses of this poison? Describe the post-mortem appearances, and state how you would detect the presence of the poison in the contents of the stomach, after the appropriate antidote had been administered.—4. What are the symptoms and appropriate treatment of poisoning by Aconitum Napellus?—5. In the unimpregnated and in the pregnant state, what are the proofs of pregnancy having previously existed?—6. What are the appearances which indicate recent delivery, as shown during life and after death?

MIDWIFERY.—*Examiner*, Dr. Rigby.—1. Enumerate the changes in the female breast which are produced by pregnancy.—2. Enumerate the different varieties of extra-uterine pregnancy; their duration and probable mode of termination.—3. At what period of pregnancy is premature expulsion of the fœtus least dangerous, and at what period is it more so? Explain the reason why.—4. Enumerate the injurious effects which may result from hurrying the expulsion of the child.—5. Enumerate the indications for applying the forceps and for turning.—6. Define the operation of artificial premature labour, and describe the mode of inducing it as recommended by modern authors.—7. What are the injurious effects as regards the mother and child in allowing difficult labour, from contracted pelvis, to go on too long without assistance?—8. What is the diagnosis between prolapsus and polypus uteri?

MEDICINE.—*Examiners*, Dr. Billing and Dr. Tweedie.—1. Describe the symptoms, anatomical characters, and treatment of acute hydrocephalus.—2. Enumerate the principal varieties observed in the expectoration in pulmonary diseases, and the diagnostic inferences to be drawn from each.—3. Detail the principles of treatment in infantile convulsions.—4. State the characteristic appearances and varieties of Rupia. 5. Explain how Pneumo-thorax may arise. Give its physical signs. How is it to be treated?—6. Describe the symptoms and morbid appearances in dysentery. Give an outline of the treatment.

EXTRACTS FROM FOREIGN JOURNALS.

(Translated [illegible] Paris for the 'Medical Times.')

FRENCH.—*Phrenology Examined.* By M. FLOURENS.—Hitherto phrenology has not been honoured by a regular refutation, emanating from the first authorities. The most celebrated physiologists and anatomists of the present period, have been more inclined to treat this subject with contempt, than to oppose it by argument. They have either altogether neglected it, or with Muller have merely deigned a few passing sentences of condemnation. This repugnance towards committing oneself on phrenology is easily conceivable. For the

last quarter of a century this pretended science has assumed all the forms of charlatanism, and hence men of a really scientific character have been unwilling to lose their time in combatting a chimera, or to compromise their name by entering the arena with adversaries such as usually present themselves in this field. When phrenology was advocated by such men as Gall and Spurzheim, it was enabled to obtain some attention, for, to the merit of a kind invention, these anatomists joined learning and talents of a high order. It is even probable that the two chiefs of this doctrine would have assumed a better position in the scientific world, had they not sought so much the favours of the multitude, and regarded more the quantity than the quality of their partisans. But when, after the disappearance of the masters of phrenology, this subject descended into the hands of the vulgar, and was made the theme of a set of ignorant declaimers, its abandonment by men of science became inevitable. An event has, however, occurred of late years in France, which has helped to raise this system from the low position into which it had sunk, and to give to it a certain degree of its former celebrity; I mean the conversion of Broussais to phrenology. Broussais had formerly been somewhat roughly handled by Gall, on occasion of his "*Traité de la Physiologie Appliquée à la Pathologie*," in which he professed a psychological theory analogous to that of Cabanis, and expressed himself with great disdain upon the ideas of the German doctor. Broussais for some years remained faithful to these doctrines, and opposed to the views of Gall. In his work "*De l'Irritation et de la Folie*," published in 1820, phrenology is directly attacked, and formally refuted, by proofs drawn from psychology, anatomy, and pathology. The objections therein contained appeared to him so invincible, that he declared *they could never be answered*; and yet in a few years from that date, Broussais became a fierce disciple of Gall, publicly teaching phrenology, and declared the chief advocate of the sect. This change in opinions has hitherto remained unexplained, but whatever its cause, it was a true triumph to phrenology. The noise created by Broussais' conversion directed attention afresh to the doctrines of Gall, and reanimated their discussion; but, Broussais excepted, no converts of any note were made. It had, however, the fortune to draw towards it, for the first time, an adversary of high standing in the scientific world.

There are few men in France so competent as M. Fleurens to give an opinion on the doctrines of Gall. Devoted for years to the study of the anatomy and physiology of the nervous system, he has been distinguished by the most able and original views on this subject. Endowed with a philosophical spirit, and familiarized with the workings of the human understanding, he has been enabled to expose the contradictions and the errors of the metaphysical part of the system. M. Fleurens examines successively the doctrines of phrenology as laid down by Gall, by Spurzheim, and by Broussais. Attaching himself principally to Gall, as the founder of the system, he shows that his fundamental proposition, namely, that the brain is the organ, or organic seat of intelligence, has in it nothing new, although Gall pretended to give this assertion as a discovery. With a few insignificant exceptions, all ancient and modern physiologists and physicians have expressly acknowledged the special relation of the brain with the intellectual and moral manifestations. It is in the brain that all have placed *the seat of the soul*. The functions of the brain, taken in a general sense, were perfectly well known before the time of Gall. With regard to the second proposition of Gall, viz., that each individual faculty of intelligence possesses in the brain an especial organ, although always suspected and admitted *à priori*, by reason of analogy, still the fact of the plurality of organic conditions being conformable to the plurality of functions, had never been demonstrated. Gall then possesses the merit of having more clearly defined this question, and of having undertaken direct researches for the verification of this idea. M. Fleurens, however, observes, that phrenologists commit a capital error in attributing to the entire mass of the brain a participation in the production of the intellectual and moral phenomena. We must, in fact, abstract from this order of functions at least three parts, the use of which has been directly demonstrated by his own experiments, as well as by those of other physiologists, viz., 1st, the *cerebellum*, which governs the movements of locomotion; 2d, the *tubercula quadrigemina*, the seat of the internal principle of the sense of sight; 3d, the *medulla oblongata*, the seat of the principle directing the respiratory movements. There then remains for the special acts of the mind, and of sentiment, but the brain properly so called, that is to say the hemispheres. But by confining the research of the individual functions of the mind to the hemispheres alone, Gall is equally proved to be in error. Direct observation proves, in fact, that portions of the brain may be removed from all points of its surface, without sensibly affecting the manifestation of intellectual life; and that when this loss of substance exceeds in depth certain limits, sensation, volition, and intelligence, become gradually weakened, and eventually cease altogether. There are not then distinct seats for the various operations comprised under the generic term intelligence, and the seat of these operations appears to be *unique*, as intelligence itself is *unique*.

M. Fleurens then combats with great force, that strange psychological doctrine of Gall, in which he asserts that the acts of judgment, of perception, of imagination, of memory, of reasoning, which essentially constitute intelligence, are but secondary functions, simple accidental modifications of other faculties, and transforms each of these pretended fundamental faculties into so many distinct *individual* and separate intelligences. M. Fleurens dwells particularly on the puerility of that philosophy which attempts to explain each diversity of talent, of instinct, or of taste, by the intervention of a special faculty, designed especially for this purpose. The whole philosophy of Gall, he concludes, consists in creating *multiplicity*, in the place of *unity*; dividing the intelligence, which is one and general, into twenty-seven petty and individual intelligences, and breaking up the brain into twenty-seven small brains; thus substituting an unintelligible chaos in place of the mutual relation and admirable order of the human understanding.

We pass by the remarks of M. Fleurens as to the practical consequences of a system which, according to him, destroys free will, and with free will all essential notions of morality, and come to the anatomical part of the subject. According to phrenology, the faculties are organs; there are as many organs as faculties, for the faculties are merely the functions of the organs: But do these organs exist? Gall never succeeded in showing them, nor even in theoretically defining them. He himself acknowledges that the study of the structure of the brain had taught him nothing, and that it could teach nothing as to the nature, or even the existence of these organs. Anatomy then furnishing no evidence, Gall had recourse, for the purpose of determining the position of his cerebral organs, to the empirical examination of the cranium, that is to say, to craniology, and lays down the following suppositions:—1st, that the organs are situated upon the outer surface of the brain, an hypothesis based only upon the exigences of his system; 2d, that the cranium represents the configuration and prominences of the brain with fidelity and precision, a fact which the least anatomical knowledge proves to be false; 3d, that the functional action of these pretended organs is rigorously proportioned in intensity and energy to their relative size. And it is upon such conjectures that phrenology pretends to have demonstrated the existence of 27 or 35 organs, as distinct in situation, in form, in size, and in functions, as the five organs of the senses!

M. Fleurens then points out the difference between the doctrines advocated by Spurzheim and those of Gall. He shews the contradictions of the two systems of the master and the disciple, and that however they may appear to agree upon general outlines, they are so opposed in their manner of defining faculties, of explaining their mode of action, and even their number, that if the theory of the one be true, that of the other must be equally false. But while strongly condemning the organologic system of Gall, M. Fleurens does not fail to acknowledge the services which it has rendered to the anatomical study of the nervous system, and of the brain in particular, and pays a just tribute to the talent and ingenuity of this celebrated man.

TO CORRESPONDENTS.

The Sydenham Publishing Society.—*Several, Correspondents speak highly of such a Society, and offer to become members, in the event of its being founded, when they will at once give their names. One suggests the difficulty of managing it by an unpaid Committee, and instances the failure of the British Medical Association as a proof. (We should think it somewhat more difficult to manage to keep it up by a* paid *Committee.) A third speaks of the ruin it would inflict on many respectable publishers, and urges us to take no part on either side. Mr. Burns of Edinburgh, doubts whether a London management would please all; and Mr. "H. Hudson Rugg, Surgeon, London," announces that he has a body (no names are given) already established for the purpose.*

An Apprentice.—*Undoubtedly, in reference to the Hall. There might be some difficulty in respect to the College.*

Capt De Borgh.—*We have not given the part enquired about. The whole work in German may be got through Mr. Black, of Wellington Street, North.*

Clarke's Apparatus for Fractures of the Lower Extremities.—*We have been requested to call attention to this* ingenious and comprehensive *improvement, but it was so well described in a past number of our journal, as, we fain hope, to make further notice unnecessary.*

A Subscriber *forwards an advice bill placed in his hand, containing the offer of advice and medicine for sixpence each application, by Mr. Joseph Nelson, M.R.C.S.L., at Mr. Dunn's, the Chemist's shop. We can only hang out his name with* "hunc tu caveto." *The College should risk (if there be risk in the matter) the expulsion of such fellows.*

Periscope, Junior, *has our best thanks.*

M. R. C. S. I.—Mr. H. P.—Argus—Why and Because—Emptor—Four or Five Constant Readers—*no space.*

We shall think over Mr. Dawton's paper.

Mr. Prideaux's note was received. We receive subscriptions at all seasons.

XX—Minor—Punch—A Medical Reformer—"A Wise Son"—"A Provincial that was," *have our thanks. We shall sacrifice the latter's wit (if compelled by that demon,* space*) with much unwillingness.*

B. M. T. *will find his answers in our leading observations, as Milo will find his in our advertisement page.*

The Conclusion of Orfila—Lectures by Serres (continued) on the Development of Organs—and Dr. C. I. B. Williams in our next.

N. Y. *It was resisted as an unjust demand, and with some success, since it was reduced nearly one half.*

NOTICE.

ON THE 1st OF DECEMBER NEXT, WILL BE PUBLISHED, AS AN APPENDIX TO OUR ORDINARY NUMBER, A **MEDICAL ALMANAC**, REPLETE WITH MATTER THE MOST VALUABLE AND INTERESTING FOR THE MEDICAL PROFESSION.—IT WILL CONSIST OF 72 QUARTO COLUMS. PRICE 1*d.* PLAIN, 5*d.* STAMPED.

THE MEDICAL TIMES.

SATURDAY, NOVEMBER 12, 1842.

Pares cum paribus *difficillime* congregantur.

The British Medical Association held its annual meeting at the British Coffee-house, Cockspur-street, on Tuesday evening. The meeting was composed of between one hundred and one hundred and twenty persons, and the refreshments which followed were partaken of by about sixty guests. Instead of making the proceedings the subject of an extended report, we shall present them in the condensed form more suited to their absolute importance, and make concurrently such remarks as their nature and bearings may suggest.

The chairman, Dr. Webster, of Dulwich, opened the meeting with some general observations. He seemed to have two objects in view—first, to prove that the Association was neither contemptible in its constitution, nor insignificant in its doings; and, secondly, that in the present state of the profession, and in the prospects held out to it by Sir James Graham's bill, there was a necessity for the medical body's doing something extraordinary. The preparation of a proposed Act of Parliament—deputations to Lord Campbell—Sir J. Graham—and the Poor-Law Commissioners—were the evidence mainly adduced to prove the successful working of the Association, to whose exertions the speaker mainly attributed the merit of those Poor-Law ameliorations, which have commonly been supposed to belong to the independent medical press—the general expression of medical men's opinion—and to the active personal exertions of the late President of the College of Surgeons, who certainly, in this matter, has not yet received his due from the medical public. Dr. Webster re-announced the heads of Sir James Graham's bill, which differ in such inconsiderable trifles from the statement we have already given of the measure—that we think it unnecessary to reproduce the details. The report prepared by Dr. Webster was then read: it contained an exaggerated statement of what the Society had done during the last year—expressed elevated notions on the Association's power of volition, which was declared equivalent to any other body's action—and referred the subscribers for a statement of their accounts to some future day,—some unnamed accident preventing any being forthcoming at the members' annual meeting.

Professor Grant, in a speech that occupied about two minutes, dwelt strongly on the paltry subterfuge Sir James Graham's bill involved—inveighed against his neglect of the Irish and Scottish medical corporations,—and insisted, in despairing accents, on the necessity of some grand organization. Dr. Grant seemed anxious to have the corporations as quickly as possible in the class of extinct remains, and evidently felt that the circumstances about him gave him little grounds for hoping so capital a subject for the exercise of his brilliant powers of classification.

Dr. Marshall Hall enlarged on the high qualifications and endowments of medical practitioners, and compared these with the position they occupied as aliens in the two Colleges, or the third licensing body—the Company. He had himself been an alien in the College of Physicians for fifteen years—and his answer to a physician, who asked him what he could grumble about now, being a Fellow? was—that "he had the recollection of fifteen years' exile, in his own land as it were, to grumble at." He referred to the numbers—the intelligence—of general practitioners, and reminding them that in both was *power*, urged them to use it. Their place was to *demand*, not to petition. He also recommended unity and organization—spoke of the delights of fraternization, and more intimate intercourse, assuring his audience, that they would be truly happy,

—si bona sua norint.

He proposed that, with or without law, the profession should form itself into one Faculty—and deprecated strongly the maintenance of such degrading terms as apothecary and general practitioner, wishing both to merge in that of Member of the Faculty. He finally, on the plea of ill-health, announced his approaching adieu to medico-political life, asseverating his changeless opinions. The president, announcing that he had no seconder named for the resolution, suggested the duty to Mr. Pilcher, who briefly remarked that medical men, from their superior attainments, might be safely entrusted with discretionary political powers, which might be dangerous in other hands—and suggested this as a reason why the government of the profession should be in its own hands. It would seek not its own aggrandizement, but the public good. Dr. Lynch followed in an eloquent and much-admired speech—expressing his wonder that medical corporations should be now the only existing self-elective anomalies in British Government—and citing the opinions of Aston Key, Professor Kidd, and Sir James Clark on the utter incompetency of the two Colleges to discharge their duties decently to their members' profit or satisfaction: he descanted on the political apostacy of Lawrence—inveighed against the preposterous arguments adduced in favour of the present corporations—and especially against the segregation of one class of practitioners for the poor, and another for the rich,—the division of labour, &c., and affirmed that the curricula were lengthened or shortened as the College finances needed. He pursued in detail the various grievances of the profession, and expressing a high opinion of the general practitioner, whose skill he placed above that of either the pure surgeon or physician, expressed a hope that that hard-worked body to which he belonged would one day get their real merits, and occupy that position to which their education and services to humanity gave them a fair title. He concluded by a strong reprobation of the proposed new bill, which, it was declared, would make bad worse. Here, the president read a letter, which he described as a blast from the north, which expressed warm approval on the part of a Medical Reform Society of Glasgow, of the scheme of starting a new Faculty by the members themselves. Mr. Riadore Evans, who was startled by an appeal to him to support a resolution which had evidently not been communicated to him, now shortly expressed his hope that something would be done—with his conviction that the project proposed had its difficulties.

After Professor Kidd and Sir James Clark had been enrolled honorary members, and two other gentlemen elected ordinary members, Mr. Grainger was called on for his oration on Medical Reform. The essay was perspicuously and well written, abounded in an article we should not have expected to find near so many *tetes exaltees*, sterling common sense,—and, on the question of Medical Education, advanced opinions deserving the highest consideration. It will shortly appear in print, when we shall renew our acquaintance with it, not, we believe, without pleasure and advantage to our readers.

After an unostentatious supper, in which—according to the report before us—the two great political qualifications of the ruling duumviri,—the overflowing graciousness of the president, and exuberant appetite of the polite secretary—were favourably exemplified, a series of toasts were given, and the festive scene became enlivened with a merriment which, honourable or not to the cause, must have been a source of much happiness to those assembled and elevated to the fit humour for appreciating it. If we may believe the report, a gentleman's song of love, with an overhanging large picture, called, by a speaker, "*luscious*," of a nude Venus in the arms of Mars, formed, with their connection with the reflex functions of the unexcited Dr. Hall, an exhaustless fund of oratory, and endless source of amusement.

The following, apart from the routine votes, were the Resolutions: we especially invite attention to that we give last:—

That while we rejoice that the persevering efforts of the profession have obtained from the Poor Law Commissioners the ameliorations contained in their late Medical order; the association will continue their best endeavours during the next Session of Parliament to procure further amendments in the present defective system of medical relief.—That the plan proposed to the Commissioners by this Association

for the poor under certain regulations, to select their own medical attendants from the qualified practitioners in their neighbourhood, would be alike beneficial to the poor, and satisfactory to the profession.

That any measure of medical reform, which does not contemplate the union of the Profession into a representative body; equal rights and privileges as members of that body: uniform qualifications for a title to practise throughout the British dominions; and protection to the community and the profession from illegal and unqualified practitioners, will be most satisfactory to the profession, and will be strenuously opposed by the Association.

That it would be highly desirable, under existing circumstances, to unite the Medical Profession into one Representative Body or Faculty:

That a standing Committee in London, should be appointed by the various Associations, and by County Committees to promote this and other important objects; to watch proceedings in Parliament, and to act as circumstances may require.

That a Committee be appointed by the Council to acton behalf of the Association to correspond with other Associations and Committees, for the purpose of forming the Central Committee.

The object of this Resolution appears to have been, to sound the medical public on the possibility of forming a Faculty of Medicine, whether Parliament or Law sanctioned it or not. If the sanguine concocters of the scheme had any notion of its feasibility, *through their agency*, before Tuesday last, the chilling reception the amendment met from the gentlemen assembled, must have dispelled the delusion. The truth is—and we express the repulsive truth with the sincerest regret—there is nothing (at present) in the Association calculated to lead to the remotest chance of its proving of usefulness. There is utter disorganization in its management: there is in it no brotherhood of sentiment—no kindliness of feeling—no bond of mutual regard or esteem—no harmony of design—no concert of action—no element, in short, of unity or cohesion. The Council considered as a body of gentlemen meeting, considering, discussing, acting,---as anything, in truth, but a prospectus list of names, is a MERE SHAM. Mr. Grainger is an annual shew-card; Drs. Grant and Hall announce their retirement; Mr. Farr is silent; Dr. Granville away; speakers cannot be found numerous as Resolutions---yet this crippled, disorganized thing, this worst-constituted and worst-managed Society in the Empire, broaches a scheme which, with the best circumstances, and under the wisest direction, would present all but insuperable difficulty of realization. To do the Association justice, there is real magnificence about *its pretensions*---it is the wren with the eagle's cleaving wings, and it never moves into absurdity without being carried by native weight to the culminating point.

We deplore---we deeply deplore---to augur so little succour from this quarter, at a time when all the forces of medical reformers should be in requisition, and shewing their best metal, under the best guidance. But the crisis is imminent, and there should be no misunderstanding: we should exactly know what we have to count on. It will be no consolation, after the supposed support has sunk under us, to say we had hoped better things. The REED IS ROTTEN,---let it be known. Will the profession rely on it---or on *themselves?* If on it---we are in the hands of the Philistines, and the Corporations have us for another century. No power on earth can save us! If on ourselves---boldly, prudently, energetically --- we may yet shew the enemy bold --- aye, *successful* fight. But there is no time to be lost.

The letter of Mr. Guthrie published in the MEDICAL TIMES, a fortnight since, has produced a *small* sensation. The country practitioners, are in various degrees of excitement; the council of the College of Surgeons are by the ears—and each day brings with it, a thousand intimations of the circulation of our Journal, in the shape of applications to the College, of Gentlemen, who wish to be examined "on their merits practically."

The Councillors are, to use an Americanism, clearly in a very tarnation sort of pickle, and how they will get out of it with respectability, is a question of some interesting speculation. Deny the practitioners the boon the late president so providently extended to them—they dare not. The word of Mr. Guthrie has been given---the emergency demanded it—and he is not the sort of man to recall it. The council then must eject the ex-president—and mortally offend and disappoint and inconvenience numbers of country practitioners—or these must be inducted into the College on satisfactory proof of their competency supported by the usual fee. But *can* the College—*dare* it insist on the fee under such circumstances? Through their ex-president, they have so operated on the Poor Law Commissioners, that these now insist on the London College's diploma: did they do this for their own emolument, or the public good? Who will be in doubt, if they make the arrangement so procured, a source of corporate and individual lucre? They must then admit the experienced practitioner, and they dare not in decency, derive from the admission, a petty pecuniary profit, which would disgrace them as trafficking negotiators and mercenary tradesmen for ever.

PROFESSOR OWEN, F.R.S.

THE medical profession must rejoice to learn that the Royal favour, which has been confined heretofore to the eminent cultivators of the exact sciences, as Herschell, Airey, Faraday, has this year been extended to Professor Owen, whose invaluable services to Physiology and Comparative Anatomy have long been acknowledged by the Institute of France, and other learned Academies of Europe. We shall, at present, limit ourselves to alluding to his Catalogue of the Hunterian Collection, the different volumes of which must have been in the hands of many of our readers. The Council of the College have informed us, in the preface, "that they have great gratification in acknowledging the unremitting labour which has been for many years bestowed on this great work by Mr. Owen, one of the Conservators, and now Hunterian Professor of Comparative Anatomy and Physiology, to the College, to whom its publication has been exclusively confided." The Hunterian Collection cost £30,000 of the public money, when it was without a Catalogue, and so continued for many years, a sealed book to the student. By how much is its value increased now, that, by its scientific arrangement and description, "he that runs may read it?" We do not remember any scientific services to the State, for which a pension of £300 has been awarded, of a more solid description, or better merited, than those which Mr. Owen has devoted, during the best years of his life, to this important work. We congratulate the distinguished Professor---we congratulate, still more, the Government --- on this most judicious act of justice.

PENCILLINGS OF LIVING MEDICAL MEN.

DR. HAMILTON ROE—MR. LYNN—DR. BURNE—MR. HALE THOMPSON,

Dr. Hamilton Roe, whose magical influence over his congregation, we attempted to describe in our last sketch, takes the means to command success. The style of his oratory is well adapted to excite tender emotions. It is Moore without his metre—poetry converted into prose, and without its measured chains. His lax terms, his voluptuous, his oriental imagery, is entrancing. You feel that the loves of the angels, if not *fact*, are at least more than *fiction*. His sparkling fancy lays the whole range of creation subsidiary to its invasion, and it has ample scope for its excursions upon the vague immensity of the endless sea of theology. He invests ordinary subjects and otherwise uninteresting, with a charm that makes his devotees feel that his doctrines are full of pleasing reveries, and the warm imaginings of the young and blooming lady of high and hot blood can, under his guidance, venture into the sacred bowers of even Eastern poetry without peril.

This glowing and impassioned language bears all the character and glory of spontaneous enunciation, or rather of inspiration. But these unprepared creations of religious rhapsody are carefully and artfully digested in the study, and afterwards thrown off with such volubility and earnestness as to impart the illusion of extemporaneous oratory, and its enthusiasm and sincerity are calculated to make converts. Ars celare artem, is the highest proof of rhetorical proficiency; he certainly gives it the appearance of natural and momentary impulse. The purple patches of embroidered *eloquence*, he works most skilfully into the frame-work of his discourse. It requires a very discerning ear to detect the real from the mock mosaic. A very prepossessing appearance, graceful animated action,—

> Hands, lips, and eyes, are put to school,
> And each instructed feature has its rule,—

exercise their wonted power over a very susceptible auditory, to whom it would be sacrilege—nay, almost blasphemy, to insinuate that his addresses were drawn from artificial sources of emotion; and not from the deep and troubled fountains of the heart. We

ought to say a word upon the composition of his obedient and fleecy flock. They are of the order miscellaneous. The gentler sex preponderates considerably; to the majority, the air *di tinque* applies. They look very grave, but their vanity, though of the serious character, is displayed in their dress, and equipage. The elder portion of this class, are known by their conspicuous *piety* and *paint*, and by the elaborate and ostentatious humility with which they glide into their seats. A pleasing difference to this group of devotees, is presented by the gay, the graceful, the scented, the sweet-spirited, the cherub-lipped lispers of the unknown tongues, whose Heloise tenderness, and impassioned innocence, make you waver whether you will embrace them as sisters in spirit or—not. Their eyes, as they are lifted up in adoration, are at intervals tenderly and surreptitiously directed to their companions of the opposite sex, who are overjoyed if the fond one in the pious up-turnings of her eye during the excess of a fit of devotion should abstract her mind one moment from heaven to think of him. This mixture of human with evangelical affections is very edifying; it is a beautiful specimen of the doctrine of sympathetic attraction, or rather of single and elective affinities; an illustration of the, at times equally suspensive magnetism of earth and heaven.

There is another class some ten years older, who oscillate in a state of disagreeable suspense between these two extremes, and who finding themselves neglected by the latter, are disposed to dedicate themselves to the former, and who flock to the doctor to teach them resignation and self-denial.

There is another class—they reckon very few in numbers, but are distinguished by their obstreperous zeal. Those who have reformed—who have turned from their evil ways—who have occasioned much joy in heaven—who now piously incline to give up the plural for the singular number. Now, their passions decline, and piety makes inroads upon their boundaries.

Servants, too, are to be met with here of noble families—who are equally solicitous of their temporal, as well as spiritual, welfare, and who on a principle of reciprocity, consider that the maid should be of the same religious opinion as her mistress. This class forms a corps of peripatetic advertisers of the doctor's skill and goodness.

We cannot enter farther into an analysis of all those males and females who assist at this fanatical mummery. The doctor, as high priest or grand referendary, is consulted upon all essential points, something upon the principle of a chamber lawyer; his opinion is a decree final and infallible. He does not meddle in matrimonial matters, as has been alleged.—There is a committee of persons whom we call of the neuter gender, to whom these delicate negociations are intrusted.

His evangelical is blended with his professional reputation. He is followed by poor and rich. His hall down in Hanover Square is surrounded every morning, and we should judge that his practice is extensive and aristocratic. He has written, but done nothing for science. He walks round the wards like a priest in a processsion, with the aspect of abstract and mystical meditation. Another day with leaden eye he seeks the ground, and seems industriously employed in counting with exact precision the nails in every board of the ward which he is traversing. His work on diseases of children evidences a total ignorance of composition. He ventured some time ago to send a case of cholera to the Lancet. It was a very poor affair. It would shame the penmanship of the humblest general practitioner, whose writings often far surpass the literary productions of our presuming physicians. In this article he advanced no scientific explanation of the phenomena of the disease, only "that when a violent spasm came on, the patient writhed about the bed, and that he recommended empirically laudanum and ammonia." He shews zeal and ability in his official duties, and when not wrapped up in his musings, is jocular and communicative of what he knows. As a lecturer he is neither eloquent nor fluent.—The principles of his therapeutics are not fixed—his practice is equally variable. He looks for the *causes* of disease in organic lesion. He is a solidist; he might as well search for wisdom in a wig. He is a kind-hearted, amiable man, always ready to do a good action, and never unwilling to befriend those who are not in a condition to help themselves. The lines of the poet may, without inappropriateness, be quoted for him,—

> Thus to relieve the wretched was his pride,
> And even his failings leaned to virtue's side;
> He tried each art, reproved each dull delay,
> Allured to brighter worlds and led the way.

Mr. Lynn is nephew to the late senior surgeon, and forms one in the many instances in our charitable institutions, of the effects of nepotism—not but what one less fitted than he might have been elected yet it is certain, a less near connexion to a preceding *pure*, would have been a disqualification to Mr. Lynn, as he is no favourite with the governors and medical officers, and the reason is obvious. He is too unassuming, too mild, too gentlemanly a man to be a match for the dictatorial individuals who form the majority of his colleagues and the house committee. By such men he is regarded as a person whose opinion is far below any of the other medical officers. He consequently receives many slights without notice; which none but one aware of having been raised by the fortuitous chance of relationship would submit to. Mr. L. is far from being without talent; he is a dapper active man, with an intelligent countenance, perceptive and reflective organs well marked, on a well developed head. He had been for twelve years a favourite pupil of John Hunter and is, as a matter of course, a good anatomist; he is also a safe operator: imperturbable sang froid, great presence of mind, manly confidence in the conclusions of science and reason, are his distinctions. He has not contributed even the widow's mite to the Westminster poor box of improvement. Factis non verbis, is his motto. He has no ambition to appear in print. They say that he is a man of no literary or scientific attainments. We cannot predicate whether he is so or not. We rather think that it is not true; he abhors the unprofessional parade, and vain-gloriousness of his bombastic colleague. Notoriety, the passport to all monopolies and corporate bodies, he shuns. The echo of his name and fame reverberates not beyond the stuccoed walls of the institution of which he is a diligent and useful officer. He is an hospital surgeon nevertheless and why not a member of the council? He never made them tremble beneath the thunder of his denunciation. Fear and sycophancy are the keys that open their closed doors. He never truckled like the crawling slimy reptiles who, with less merit and pretension, disgrace even the sittings of this secret council. His manners and appearance are unpretending and agreeable. He is bland and obliging to all subordinate to him, and friendly, colloquial, and instructive with the few pupils that still remain to walk the wards. There is no pity or sympathy felt for his rejection by the council of the college. Their cruel, capricious, and unjust treatment of several excellent men, is another of the multitudinous evils which the present abominable system entails. They are now wholly irresponsible They can set the indignation of the profession at defiance. What happened to Lynn yesterday, may occur to another to-morrow. They may pass over whomever they think proper. Every man whose name is on the list of the college, has an interest in resisting their assumption, and should join his brethren in bringing them under the controul of the profession by making them eligible periodically by all the members.

Dr. Burne, aged 40, is a tall, well-looking man, and has the name and credit of being a clever man. He is a very fair and fluent lecturer He married the Bishop of Hereford's daughter, which advantaged his professional prospects. His clinical instruction is worth attending. He published an octavo on typhus. It is a summary of the information then known; he divides it into adynamic and inflammatory The 2d division, or adynamic, includes the putrid of Sydenham, the slow nervous of Huxham, typhus gravior, typhus mitior, and synochus of Cullen, and the essential of Clutterbuck. In his preface he says, if we consider the limited views of some authors, we confess that there is much wanting to perfect our knowledge of this disease. The accuracy of this observation we fully assented to after a perusal of the doctor's production: "Ancient writers," he observes, "had to contend with the disadvantages of a defective acquaintance with morbid anatomy, and, therefore, could not possess the means of attaining correct notions of fever." The merest tyro is aware, that of all the diseases that flesh is heir to, typhus is just the one which pathology throws the least light on. Those who attributed it to lesions of head, such as Clutterbuck, to lesions of chest, of stomach, of liver, of mucous membrane, of intestines, have found out their error; and the profession begins to look from the solids to the altered and varied state of the circulation; for this is the true explanation of the cause of typhus. The sole study of solidism, even pushed to extremes, affords only negative information; animal chemistry is the only channel through which we can hope to find a solution of the difficulty.—The doctor lays down rules which can never be followed and formally describes distinctions which never existed. The book is full of professional proverbs, the paternity of which belongs to, and we fear will die with him. They remind us of Seneca's observation,—

Nil sapientiæ odiosius acumine nimio.

He lays down, too, theories with all the importance of fundamental doctrines. We had reviewed at some length—for, like Johnson, we delight in that intellectual chemistry which can separate the good from the bad qualities in the same individual, and we endeavoured to exercise it with regard to the merits of this work, but our sketch will not allow room for it. The exciting cause is, in his opinion, cold. He very properly rejects the absurdity of localising the seat of fever, and laughs Clutterbuck out of the field. His means of treatment are emetics, aperients, bark, cold affusions, bloodletting, mercury, opium, stimulants—a pretty extensive range of therapeutic agents. Bloodletting, however, he uses with caution, amounting to prohibition. It is now very generally regarded as rank homicide in this disease. The authority, or success, of Dr. Southwood Smith are not able to induce practitioners, who have witnessed its murderous effects, to recur to it. His views and assertions we intended to meet by quotations from the numerical plan of Louis, especially his observations and animadversions upon the ancients, upon the pulse which Louis proves to be correct and the Doctor wrong. It is on the whole the best work we have on ty-

phus, excepting always Stevens and Louis's able works. He has also written an useful work on constipation—his style is more copious than correct.

Mr. HALE THOMPSON is the prince of puppies: we wish, to regard our professional brethren, through an achromatic medium. The annoyance, ignorance, and impudence, of some men will not allow us. A judge said to a lawyer, who expressed his surprise at his tolerating it in a witness; "I was paralyzed," replied he "with admiration; his impudence was sublime." A very opposite feeling is created by witnessing the escapades and endless altercations of this very conceited and empty-headed young man. We never knew a man whom the great body of all those who come in contact with him are more unanimous in disliking. He is a very insignificant personage—there are no salient points about him—there is no intellectual character, or history, to refer to. He is the Count Fathom of Westminster. He got his situation by money; he married a banker's daughter. He is a good-looking, dark, curly-haired gentleman, and keeps a dashing equipage. He was *goosed*, as they term it, out of the chair of Westminster School. He has an Infirmary for Diseases of the Spine at the back of his house. His treatment, and practices to attract rich patients, I wish not to allude to. He is not liked by the pupils: they tell a story of a pupil of the name of Deschamps purposely asking him if the bone of the os coccygis was the last phalanx of the thumb, and that he answered in the affirmative.

We would remind him that there are two orders of intellect to be combined, to be eminently great—perceptive powers which exist in the collection of facts, and the reflective powers which systematize and draw conclusions. Has Hale Thompson ever furnished a fact hitherto unobserved? Has he favoured science with any valuable inductions? Has he in any way fulfilled his high functions, by exposition, scientific elucidation, or accurate practical observation?

We would also urge upon him Swift's proverb,—

"Every man has just as much vanity as he wants understanding."

The hauteur which he assumes—the peacock air—only provoke reflections which had better be avoided. He is a very little personage—his opportunities will never make him otherwise. Train and discipline a dwarf, he will never become a giant. He is a living evidence of the iniquity of our system of Hospital Elections. Mr. Guthrie has, in a recent vindication, called by courtesy a clinique, acknowledged the glaring abuses that exist there. This is the grossest and greatest of any. Thompson, as his fag, will be one day, perhaps, a member of the council!!!

PROBE.

REVIEWS.

On Injuries of the Head Affecting the Brain. By G. J. GUTHRIE, F. R. S, Surgeon to the Westminster Hospital, Opthalmic Hospital, &c. &c. Churchill.

THIS is the title of a work which exhibits in a condensed, and highly interesting manner, the result of much experience, in a very important, but difficult, branch of surgery. The author, who is well-known in the surgical world, and who stands at the head of perhaps the most rising school in London, has had most admirable opportunities of studying the subject both in military and civil life, and from the acknowledged talents and attainments of the author, we had reason to expect a practical work of no ordinary value, and we have not been disappointed. The author is a man evidently of acute observation, and of an energetic, if not profound mind. He dashes at once into his subject, and is practical throughout. Although too heedless of method in the disposition and arrangement of the different parts of his subject, his style is perspicuous and forcible. His cases are so condensed that they might have been indited on the battle field, and the principles he inculcates so succinctly, and comprehensively expressed, that they might have been delivered in consultation in a camp hospital. All is brief—all directly to the point—all excellent. We have in the work before us, a body of practical information on injuries of the head, which will bear comparison with that contained in any work that has been published. It possesses all the fascination, without the prolixity, of the great work of John Bell, and as a guide to practice, is infinitely more to be trusted to than that work. Indeed, we do not know a book, not excepting those of Le Dran, Petit, Dease, Pott, Desault, Bell and Abernethy, in which the treatment inculcated throughout, is more accordant with sound physiology, and approved and successful practice. Our space this week will not admit of a more extended notice, but we shall take an early opportunity of transferring to our columns all the more important novel points of doctrine, or of practice, which the work contains.

Commentaries on Some Doctrines of a Dangerous Tendency in Medicine, and on the General Principles of Safe Practice. By Sir ALEXANDER CRICHTON, M.D., F.R.S. Physician to the Emperor of Russia, &c.

(Concluded from page 96.)

SECOND NOTICE.

Possibly a little of the *laudator temporis acti* may be discovered in this work; but it is pardonable in one whose only aim in writing was the improvement of the profession. But if the sentences we have been quoting are certainly extraordinary, when we find the author detailing at some length in the same and ensuing pages, the treatment of Dr. Millar and Dr. I. Clarke; treatment which both these physicians declared proved successful in their hands, which has been adopted by numerous subsequent practitioners, and which we are able to vouch from our own by no means trifling experience to be, with certain modifications, highly efficacious.

This treatment, or, as Dr. Crichton terms it, innovation,—

consisted in giving from one to two ounces of cinchona in substance, together with a strong decoction of the same in cinnamon water, in the *very first stage of continued fevers, even if the pulse was hard, as well as quick, the heat great, the skin and tongue dry, and the urine scanty. Violent headache did not prevent this practice*—pp. 46-7.

In Dr. Millar's testimony our author is not disposed to rely much, because "he was better known among his contemporaries for the oddity, than for the soundness, of his opinions." This is certainly not a good reason. The "oddity of his opinion" might have arisen from his having been, as he decidedly was, before his age, and being such he paid the penalty of being sneered and talked down. But the same thing happened to Harvey, who lost his practice for daring to publish his theory: to Bruce, for telling us more than we dreamed of Abyssinia, especially of the fountains of the Nile, and of rump steaks from living oxen—to Gall for shewing us that the spinal chord was *not* a prolongation of the brain—to Winsor for offering to illuminate London with gas—to the projectors of "*The Times*" newspaper (for the present principal proprietor, Mr. Walter, bought that tremendous moral engine for a few sacks of coals!) to Elliotson for advocating phrenology, and for introducing Prussic acid, quinine, and creosote, for describing glanders in human subjects, for practising auscultation, and exhibiting mesmeric phenomena—while Crosse was all but annihilated because he published his discovery of the Acarus Galvanicus, since placed beyond the possibility of question, by latter experimentalists; and last, not least, Dr. Stevens, author of that valuable work on "the blood," to which we shall have occasion possibly to refer presently, was all but put out of the pale of the profession for declaring from frequent experiment, that the red colour of the blood was owing to the presence of the salts of the serum. Nay, the late Dr. Edward Turner went so far as to declare, in the last edition but one of his "Chemistry" published during his lifetime, that he had made similar experiments, and that the results were contrary to those given by Dr. Stevens. Yet, in the last edition, revised by himself he was forced to contradict this contradiction, and to acknowledge the truth of what the accurate and ingenious Stevens had before stated! In this instance, Dr. Turner had a theory to uphold—a prejudice to support. A friend of his, Dr. Englehardt (we hope we spell his name correctly) had published a treatise, in which he thought he had established beyond the possibility of cavil, that the blood owed its colour to the presence of an oxide of iron.—The upsetting of a bason of water, on a lady's silk dress by a jealous favourite in the reign of Queen Anne, led to heaven knows how many years' war, and so this hankering friendship, of Turner for Englehardt, led to the denial of what we believe to be one of the most important discoveries of modern days, the cause of the florid (i.e., healthy) condition of the blood.

To resume:—Dr. Crichton however, considers Dr. I. Clarke as a physician and practical man in every way to be depended upon. The doctor says,—

In Dr. I. Clark of Newcastle, we have to deal with a very different personage. He had been regularly educated to* medicine and surgery in the University of Edinburgh. During many years he had served in the navy, and had often seen the typhus gravior (the hospital and camp fever) in a variety of climate. After retiring from the service, he established himself in Newcastle, and was appointed physician to the infirmary and dispensary of that city, in which typhus often raged afterwards as a contagious epidemic; consequently, his opportunities of observing that disease were very great.—(47.)

This is a strong *prima facie* evidence that Dr. Clarke was a man in whom great reliance was to be placed, but when Dr. Crichton informs us that—

His history of symptoms is correct and good, and his precepts for the health of seamen, and the prevention of contagion in the navy, and besieged cities, are judicious and useful.—p. 47.

We do not see how Dr. Clarke's testimony is in any way to be set aside; or that his treatment, which, as we have before said, has been found successful in the hands of other practitioners, is to be considered as any other than that which, under certain limitations, all judicious medical men should adopt. We have had an opportunity of seeing both the treatment of Dr. Crichton and that of Dr Clarke tried very extensively in the Tropics, and both successfully. That Dr. Crichton's is more in accordance with the general view of the profession, we readily concede, but we observed

* Was Dr. Millar not a regularly bred man also?

that patients healed according to Dr. Clarke's plan, (with certain modifications, which we shall give immediately) recovered much more speedily than by Dr. Crichton's. It may be, therefore, useful to state in what manner these fevers were treated in the West Indies. In nearly every case we bled. The blood was then tested according to the invaluable recommendation of Dr. Stevens. A small quantity of common salt was thrown in the basin, and if, as it generally was, it was very dark, immediately that the salt came in contact with it, it assumed a crimson hue, clearly indicating the cause of the dark or black colour to be a deficiency in the salts of its serum. If, on the other hand, the blood was not remarkably dark, we by no means regretted having let blood—since the patient could evidently bear venesection. But in no case, whatever might be the symptoms, was venesection repeated in our practice. We have seen it repeated in the practice of others, and always with decidedly bad consequences. Resinous purgatives, combined with sulphate of potash, soda, or magnesia, or the phosphates and carbonates of the same bases, enemata if indicated; sometimes, but very rarely, mercurial purges were resorted to, but mercury was never exhibited with any other intent than to purge—and that we may dismiss whatever we have to say of this most dreadful poison when injudiciously administered, we add, that we never perceived any good effects from it after the first dose, but quite the contrary. On the first remission of fever, which generally took place during the action of the purgative, though this remission was not always well-marked, quinine was given, sometimes in wine, sometimes in water, at others, with the sulphate of magnesia or soda. For common drinks, effervescent draughts, tamarind or cocoa-nut water, or even very weak wine and water, but this latter was of very questionable utility. If great heat of skin, thirst, parched tongue, and anxiety, were present, spunging the body with cold water, ventilation, and nitrate of potass in ten grain doses every hour, were put in requisition. This treatment being persevered in for six or seven days, the fever generally declined on the eighth or ninth day, and on the tenth the patient was convalescent. This treatment was first generally made known by Dr. Stevens, though Mr. Cameron (*Treatise on Diet*) claims the merit of having first put it in practice, and accuses Dr. Stevens of having borrowed from him the idea of treating typhus, cholera, and the endemical fevers of the West Indies, with saline medicines. Dr. Ryan correctly remarks that, "nitrate of potass was given in barley-water, whey, and other diluents, and in powder combined with antimonials, in febrile and inflammatory diseases, long before either discoverer was in existence." (*Formulary of Hospitals.*)—But this must not be allowed to detract from the great merits of Dr. Stevens, or even Mr. Cameron. To Dr. Stevens must be conceded the honor of having first shewn the *rationale* of the saline treatment. It is also remarkable that, while the writer of this article was pursuing the same investigation as Dr. Stevens, and had adopted, with slight modifications, a similar treatment, Dr. Wilson, of the Middlesex Hospital, was led to much the same conclusion, and pursued very nearly the same plan. Here, then, are three physicians, each unacquainted with the investigations of the other, yet all agreeing much about the same time in their treatment—each believing himself the discoverer of a new system. We, therefore, readily concede the honor to Dr. Stevens; not only because he published upon the subject (as did the writer of this article), but because he shewed the *modus operandi* of saline medicines, and, we may almost venture to say, discovered the cause of fever.

This is Dr. I. Clarke's treatment:—

I have shewn the safety and advantage of exhibiting bark early in confined fever, which occurred in my practice in this kingdom. From 1770 to 1791, I have attended about thirteen hundred patients in all the varieties of continued fever, and I do not remember that above four cases have come under my care, where the medicine failed."—*Observations on Fever.*—p 790.

Dr. Crichton adds—

"This is nearly the same kind of confident language, which Rasori, Dr. Armstrong, and others employed, when they recommended forty ounces of blood to be taken away at once, and repeated in the very same kind of fever."—p. 17-8.

Here, we must admit, the "folly of dogmatism" is painfully conspicuous. To lay down rules for the *quantity* of blood to be taken from a patient, is a blunder too obvious to be exposed. The practice of Rasori and Armstrong did more harm, perhaps, than any other, not excepting the Brownonian theory, and was soon abandoned; indeed, Rasori had the courage to abandon and condemn his own treatment, after pursuing it unsuccessfully for many years!—He substituted *counter-irritation*, on the ashes of which Dr. Granville erected his superstructure. The practice of Dr. Clarke of giving laudanum in large doses, at the commencement of fever, we hesitate not to condemn, with Dr, Crichton, "as bad and hazardous treatment." p. 19.—But that Dr. I. Clarke's treatment, taken as a system, was judicious and scientific, we entertain not a doubt. Here is what Dr. Crichton himself says:—

I ought to have observed that the preceding statement of Dr. Clarke relates particularly to the treatment of contagious typhus, or hospital fever, in which disease it has been proved incontestibly of late, that local inflammations are generally detected after death. Nevertheless, in all the stages of this fever, Dr. Clarke gave two ounces of strong infusion of cinchona in boiling cinnamon water, every half hour; or an infusion of the same strength, i. e. an ounce of the cortex to ten or twelve ounces of fluid, to which he added occasionally conserve of roses, one ounce; diluted sulphuric acid one drachm; and one ounce of French brandy: and to such mixtures he also added the powder of bark, as soon as he conjectured the patient's stomach could bear it. In the advanced stages he gave in addition, the Virginian snake root and ammonia. I well remember that the publication of Dr. Clarke's work produced a great sensation among the London practitioners of medicine. Most of us had been pupils of Cullen, and had imbibed his doctrines, and imitated his practice. Few could be induced to try it at first. The mild diaphoretic and antiphlogistic plan was undeviatingly pursued by the greater number, for the best of all reasons, because it was found generally to be safe as well as successful. Nevertheless, some physicians of reputation and experience began to make cautious trials with the tonic plan, and their reports were undoubtedly in favour of it. Doctors John Hunter, Lettsome, Huck, and Sims, and some others, assure us that they employed it with success. The first of these, Dr. John Hunter, was well qualified to give an opinion on the subject. He had received a full and ample education both in medicine and surgery. He had been physician to the Fleet for many years, and had seen a great variety of climates, and at last resided in London, where he was much respected,—p. 18-19.

This is strong testimony, yet such is preconceived opinion that Dr. Crichton manfully argues against it. A pupil of Cullen's, and imbued with Cullen's views, and what Andrew Duncan, jun., calls, "Cullen's professional scepticism," he would rather be wrong with Cullen than right with all the world beside. Yet is he no servile disciple; and when he does throw off the Cullenian shackles, he is both a reformer and a liberal physician,—the latter a character so rare, that when we do meet, we cannot avoid paying it homage.

Among a host of writers whose evidence could be collected in support of the early exhibition of bark in typhoid and petechial fevers, there is none more valuable than that of Bruce, because, unlike medical men, he had imbibed no theoretical doctrine to clog his experimental inquiries. At Masuah, a bay on the Red Sea, at the bottom of which is the miserable town of Arkeeko, violent fevers, called *nedad*, attack the inhabitants, and generally prove fatal on the third day. The native method of treating this fever is thus described:—"If a patient survives till the fifth day, he very often recovers by drinking water only, and throwing a quantity of cold water upon him, even in his bed, where he is permitted to lie without attempting to make him dry, or change his bed, till another deluge adds to the first." (*Bruce's Travels* [abridged], 18mo. *Halifax*, 1840, *p.* 126.)—Thus, it would seem that the vaunted discovery of Priessnitz is only the adoption of a practice common among a barbarous sept on the arid shores of the Bay of Masuah. In England, it is usual to award the credit of the cold affusion in fever solely to Dr. Currie, of Liverpool, but our author recalls to our attention a case of fever cured by cold water, reported in the *Eph. Nat. Curios. decad. iij. Ann. iij. Obs.* 48, and thinks it "probable that Celsus employed this remedy in some febrile disorders." Dr. Wright, however, who practised in the parish of St. Elizabeth, in Jamaica, and whose acquirements as a botanist were very great, published a paper on the cure of fever by the cold affusion, in the 7th vol. of the *Lond. Med. Journ.*, long before Dr. Currie's work appeared. The honor, therefore, of the discovery or revival of the practice, for which sponging, as being more convenient, has been substituted, is due in this country solely to Dr. Wright.—But to return to the subject of Dr. Clarke's treatment, Bruce, or rather his abridger, writes in the same page,—

There is no remedy so sovereign here as the bark; but it must be given in very different times and manner from those pursued in Europe. Were a physician to take time to prepare his patient for the bark, by first giving him purgatives, he would be dead of the fever before his preparation was completed. Immediately when a nausea or aversion to eat, and an unusual, but not painful, sensation along the spine, comes on, no time is then to be lost; small doses of the bark must be frequently repeated, and perfect abstinence enjoined, unless from copious draughts of cold water. The second or third dose of bark, if any quantity is swallowed, never fails to purge, and if this evacuation is copious, the patient rarely dies; but on the contrary, his recovery is generally rapid. Moderate purging then, is for the most part to be adopted; and rice is a much better food than fruit."—p. 126-7.

Dr. F. S. Stuart, whose "Memoirs" were published in the *Monthly Magazine*, for Feb 1815, seems to have been extremely successful in fever, and his treatment differed very little from that of Bruce. Stuart, too, was a man who experienced vast vicissitudes, and visited numerous places within the tropics, and was well qualified to offer an opinion. In Admiral Christian's fleet, in 1795-6, then on the voyage to St. Domingo, he was wrecked three times, when upwards of 5,000 men were lost, and one-sixth only of 400 sail returned to England. He was afterwards at the capture of St. Lucia, at that of Martinique, and again at St Domingo, when 7,600 British soldiers, and as

ny seamen, died of the yellow fever, (i.e., bad food, and worse medical treatment.*) hart was not on the staff, and had little or hing to do with the general treatment, and, erefore, should not share the blame of this nstrous and horrible sacrifice of human life. his department he was fortunate, and states treatment to have been—

"Five grains of the tartarized antimony† and e table-spoonful of soft sugar, dissolved in fifteen ble-spoonsful of boiling water, one of which is ken every fifteen or twenty minutes, until it has erated three distinct times, when an immense antity of acrid, called viscid, bile is evacuated, d the patient immediately relieved. Toast and ater with nitre (*nitrate of potass*) is used for mmon drink, and an ounce of *natron vitriolatum* Glauber's salts—*sulph sodæ*) in it on the second third day, after which bark in port wine, during state of convalescence, has constantly completed e recovery."

This treatment is very similar to that of larke, Millar, Stevens, and such as we ourlf found highly efficacious in the treatment of oldiers, sailors, and civilians, during many ears' practice in the tropics. But we should xtend this article to another number, did we note all that we might say on this subject. Ve shall only add a few remarks on the treatnent of Lind, to which, we must express our urprize, Dr. Crichton has not alluded.

Lind's treatment was,—Ipecacum, to relieve he stomach—then salt of hartshorn (carb. mmon.) 5 grs, laudanum. 15 drops. At other imes, 5 grs. of camphor, every four hours, vith vinegar‡ and whey enemata, were recommended with these. If they failed, he listered. He says, "sixteen out of twenty will be next morning entirely free from heat, headache, pain, and fever." Twenty-four or hirty-six hours after, he gave vitriolated tarar (sulph. potass), nitre (nitrate of potass) vas also exhibited, but he preferred it in glysters. Antimonials were employed by him, and Contrayerva and Virginia snake-root (2 drams of each, macerated for four or five hours n a pint of boiling water, then strained, and wo ounces every fourth or sixth hour), and nock also he freely gave. Bark was freely exhibited during the second remission, "as ll my care during the fever was to cleanse the *primæ viæ*."—p. 65.

We must now bring our remarks on this very interesting work of Dr. Crichton's to a conclusion, dissatisfied with ourself for having added so little to the vast store of knowledge which the author has communicated, but highly satisfied with the manner in which he has spoken "on the doctrine and treatment of continued fevers of a typhoid character."

The chapter relating to "Insanity," and to the "Non-Mercurial Treatment of Syphilis," are important, and require more time and space for their consideration than we can at present afford. However, from the labour which we have bestowed on the "Commentaries on Medicine," the estimation in which we hold this volume will be manifest to our readers. It should be (with Stevens) in the library of every medical man in the East and West Indies, and to European practitioners it will ever be found a safe and excellent work of reference.

* The seamen are predisposed to fever from the nature of their food, which is salted, and often *putrid*, without vegetables.—*Lind. Treat. of Put. Remit. Marsh. Fev.*, 8vo. *Edinb.* 1776.—p. 26.

† A very common purgative in that sluggish fever of Jamaica, which is characterized by many of the symptoms of hepatitis, is, 1 grain of opium, 5 of antimonial powder, and 6 of calomel, and we have been assured by those who have tried this combination, that, though a slow purgative, its effects are very beneficial. Not having tried it ourself, we cannot offer any opinion.

‡ The exhibition of vinegar in any form in fever is extremely doubtful, if not hurtful.—*See Stevens.*

PERISCOPE OF THE WEEK.

IMPROVED METHOD OF ADMINISTERING COD LIVER OIL.—Dr. Ure suggests the adoption of cod livers as a diet for patients who are recommended to take the oil. To prevent loss during cooking, he recommends the livers to be immersed entire in boiling water, to which a sufficient quantity of salt has been added, and to raise the boiling point to about 220 deg. Fahr. The sudden application of this high temperature coagulates the albumen of the liver, and prevents the escape of the oil. When the liver is cut, the oil exudes, and mashed potato may be used as a vehicle. Dr. Ure informs the *Pharmaceutic Journal*, that having been advised to take cod liver oil, he found the nauseous flavour very objectionable, until he contrived the above plan, which he finds to answer extremely well.

BISULPHURET OF CARBON. Dr. Turnbull, whose system of using hydrocyanic acid for the eye, we noticed No. 109, Vol. V., says he has now abandoned that remedy, for bisulphuret of carbon. He puts a drachm into a bottle (containing a small piece of sponge) of about 2 oz. size having a mouth precisely fitted to the eye, and with a ground-glass stopper. He applies the vapour to the closed eyelid; its effect is to contract the pupil, but in what form of disease it should be used, the Doctor says not. He says he uses the same vapour with good effect for the reduction of indurated lymphatic glands. The rationale is thus given. The carbon in the vapour permeates the cuticle, and comes in contact with the oxygen, in the vessels and which is conveyed through the frame by inspiration and otherwise, and thereby forms carbonic acid gas, which evolves heat in the ratio of the quantity consumed by the oxygen. Liebeg is quoted as his authority.

INSANITY. — SIZE OF THE HEAD AND BRAIN.—To find how far the development of the intellectual faculties is influenced by the size of the brain, M. Parchappe, physician to the Lunatic Asylum, Rouen, has carefully examined a great many individuals, first measuring the head in the living subject, and then measuring the head and weighing the brain of the same individual when dead; and noticing every circumstance of sex, age, stature, health, intellect, &c., which was likely to throw new light on the subject. The facts observed by the author amount to 341; or 169 heads measured, 58 skulls measured, 22 skulls guaged, 95 brains weighed. The principal conclusions drawn from these facts, considered in every point of view connected with size (the influence of form being reserved), are—*Size of Head*: The size of the head is much smaller in the female than in the male, not only *en masse*, but in all the separate diameters. The weight of the cranium also is less in the female. —*Age*; The volume of the head does not seem to be limited by the period at which the general growth of the body ceases; the head appears to enlarge gradually up to the age of 60 years. The increase of size shows itself almost exclusively in the horizontal circular development of the head, and depends chiefly on enlargement of the frontal sinuses. After 60 years of age the size of the head diminishes; the weight of the skull also diminishes in old age.—*Stature*; In tall men the head is larger than in small persons.—*Idiotcy*: The head is much smaller in born idiots and fools than in persons of natural mental powers.—*Development of Intelligence*: The intelligence bears no proportion to the size of the head in fools and idiots But on comparing the average of size of 10 heads of men of superior intellect with that of 10 heads of persons whose faculties were below par, the advantage was clearly on the side of the former In men a certain size of head is necessary for a proper development of the intellect, but beyond this we find no necessary connection between the volume of the head and the development of the intellect.—*Race*: The Caucasian race is superior to all others with respect to the length of the head and the size of the frontal and occipital regions. The most powerful causes which influence the size of the head are sex, race, stature, and idiotcy; the development of the intellect is the least influential. —*Mean size of head in both sexes*: In 22 men and 18 women; intelligence normal; age 30 to 50 for men; 25 to 50 for females.

		Males.	Fem.
Antero-posterior diameter		186.8	174.5
Lateral		142.2	136.2
Vertical	Antero-posterior curve	347.5	340.5
	Lateral curve	356.7	340.5
Horizontal	Anterior curve	301.8	288.2
	Posterior curve	297.8	249.5
		1612.8	1529.4

Size of Brain.—Sex: The comparative weight of the brain, in 94 persons of both sexes, gave an average in favour of the male; the capacity of the cranium, measured in 30 skulls belonging to both sexes, was also less in the female. —*Age*: The author's observations lead him to conclude that the brain continues to increase up to the age of 40; it remains stationary to 70, and then begins to decline.—*Stature*: In both sexes the weight of the brain is evidently in relation to the stature.—*Mean weight of brain (from 30 to 60 years)*.

	Brain	Cerebrum	Cereblm	Pons and Med Ob
Males, 13.	1.342 kil.*	1.175	.160	.15
Females, 9	1.229 "	1.062	.133	.13

Relation between the side of the Head and that of the Brain: As the thickness of the occipital bone is subject to much variation, and the size of the frontal sinuses cannot be determined, it is impossible to arrive at any exact relation between the volume of the head and the form or weight of the brain.—*Disease of the Brain in Insanity*: There is no cerebral disease which can be regarded as the essential lesion of insanity; the following are those most frequently found:—Ecchymosis under the arachnoid and pointed injection of a part of the cortical surface, with or without softening; extensive softening of the middle portion of the cortical substance; adherence of the pia mater to the brain; rosy, lilac, or purple color of the cortical substance; atrophy of the convolutions; induration of the brain.

PRODUCTION OF FAT.—M. Dumas gives briefly on this subject the results of some experiments. M. Liebig thus expresses himself: "A lean goose weighing four pounds will gain five pounds in weight within thirty-six days, during which it consumes twenty-four pounds of maize; at the expiration of this time the animal yields three pounds and a half of fat. It is evident that the fat is not derived from the nutriment, for maize contains only 1-1000th part of fatty matter." The authority of M. Liebeg is so great, says M. D., that M. Payen and myself have for a long time sought after the fattening principle of maize, for agriculturists know from experience that a bushel of maize, weighing about twenty to twenty-two pounds, will furnish two pounds of fatty mat-

* The kilogramme is 2,205 lbs. avoirdupois.

ter. The experiments which we have made, prove, contrary to the opinion of M. Liebig, that maize contains 9 per cent of a yellow-oil, about five ounces of which I lay before the Academy. Hence, in eating twenty-four pounds of maize, a goose takes in two pounds and a half of fatty matter, and we need not be astonished at the animals furnishing three pounds and a half, counting the fat which it had originally. Hay contains 2 per cent. of fatty matter, and our experiments prove that cattle, while being fattened, and milch cows always contains less fat than the elements which they have consumed. With respect to the latter, however, the butter represents very nearly the proportion of fatty principle contained in the food of the cow, at least for the two substances just mentioned.

Galvanic and Nervous Influences.—The following curious experiment of M. Matteucci, has been repeated several times with success. Two frogs were prepared; from one the skin was removed; in the other there was merely left a single leg with a long nervous filament attached to it; the filament was then placed across the thigh of the first frog, and, on passing a galvanic current through the latter, so as to make its muscles contract, the leg of the second frog also contracted. When a plate of gold was interposed between the thigh of one frog, and the nervous filament of the other, the communication of electric influence between the two animals was interrupted, and no contraction took place; but a leaf of paper did not produce the same effect. The phenomenon now mentioned occurred in pigeons also.

The Causes and Nature of Inflammation.—Dr. Marshall Hall gives the following as his idea of the circulation: He views the veins, heart, and arteries, as the mere machinery by which the blood is conveyed to those vessels or channels in which the real object and functions of the circulation are performed. In and by these channels the various tissues, with the exception of the non-vascular, are irrigated, and functions which may be compared to those of an irrigated meadow are accomplished; aeration takes place in the pulmonic; nutrition, secretion, &c., in the systemic.—The true capillary vessels, or blood-channels: the veins and arteries are arboriform. The former resembling the roots, the latter the branches, of a shrub or tree. They are linear. The minute arteries in the web of the frog never anastomose; the veins very rarely. They pursue their course over the tissues. The blood-channels, on the contrary, unite and divide continually, pursuing no linear course, but a course modelled, as it were, upon the minute structure of the part, and therefore peculiar to it. There is no proof that these are distinct vessels; many facts lead, on the contrary, to the opinion that they are mere channels formed in the tissues.—The pulmonic and systemic blood-channels: these, with the mesenteric, and indeed with those of each and every tissue, are peculiar and characteristic; a fact described and depicted in an essay on the circulation many years ago, and recently particularly brought into notice. Function of the blood-channels: this is one of irrigation. As from the internal surface of the stomach and intestines, so from that of the blood-channels exosmosis takes place, and nutrient and secernal vessels arise, and perform their various and appropriate functions.—The intermediate position of the blood-channels: the blood-channels are placed immediatly between the arteries and veins, and between these and the various nutrient, secernent, and absorbent vessels. M. Berres, of Vienna, has called them the vasa intermedia. The influence of the nervous system is exerted on the heart, the secernent vessels, &c., and in a secondary manner only on the blood-channels, and probably on the minute arteries, and certainly on the minute veins.—Non-vascular parts are nourished by endosmosis; a process apparently influenced by the degree of energy of the circulation.—The author now came to the first phenomenon of inflammation: this, judging from the circulation and the effects of physical and chemical agents, as seen under the microscope, appears to be adherence of the blood corpuscules to the internal surface of the blood-channels, induced by a physical change in the blood, or in that surface. Hence, obstruction to the flow of blood, and hence—inflammation and its phenomena.—If we place a ligature on an artery or a vein, the phenomena produced, are hypertrophy of the vessels tied; hypercrisis, or augmented secretion, according to a new-old doctrine; hyperexosmosis, &c., &c. Are not these the identical phenomena of inflammation. Have we not enlarged and new vessels; secretions or separations from the blood, of serum, lymph, pus,—and effusion of blood itself, in ecchymosis?—But, further, the blood itself is changed sometimes as the cause, sometimes as the effect of inflammation. In the latter case we have the buffy coat, and augmented fibrine. We have, also, augmented tolerance of bloodletting, mercury, antimony, &c.—(Dr. Marshall Hall has an oddly "coincidental" knack of discovering the discoveries of other people—a trait only equalled in oddity by the intrepid ignorance he assumes as to every thing of importance done by Herbert Mayo, Bell, Majendie, Sprengel, Boerhaave, and other *generally* well known physiologists. Dr. Copland so completely restored the main chattel in this appropriation to its rightful owner Sprengel, at a recent meeting of the Medical Society, that nothing is left to us here, but to express a hope that Dr. Hall will see the wisdom of not casting suspicion on what is truly valuable in his labours, by discoveries which all his equals were already acquainted with, announced with a bold complacency, and combatted for, with a peevish and fretful perverseness, both alike, far below the real worth of his truly powerful mind. Sir Fretful Plagiary could acknowledge a coincidence in the same good thing being thought of by two good minds. What a golden age of peace would visit the scientific world if Marshall Hall would be but one half as frank? Ed.)

Transfusion of Blood.—A man 38 years of age, was seized with an hæmoptysis, which continued so long and so violent, that the only means of saving his life appeared to be by supplying the loss of blood by transfusion. On the fifth day after the attack a canula was introduced into the median vein of his left arm; a syringe, previously heated, was filled with blood drawn from the jugular vein of *a goat*, and about 5 ounces were injected into the vein of the man. Immediately he complained of a feeling of oppression; but this soon afterwards went off. An attack of phlebitis came on next day, but was subdued in eight days, by means of cold applications alone. His strength from this day returned, and at the end of three months he was able to resume his usual occupation. It is remarked, as the interesting point of this case, that it proves that the injection of the blood of one animal into the veins of another, is not necessarily fatal.

Preservation of Leeches. — To pure clay is added as much pure water as will make it so plastic as to be easily formed into irregular shaped balls, two inches and a half in diameter. These are placed into a square deep wooden box, or a five gallon keg. The leeches when put in, creep down the sides of the balls of clay, and remain. Leeches kept in this way will at once lay hold. The balls must be renewed weekly.

Lung Tubercles.—Mr. Addison gives the following as the brief results of his researches on the formation of tubercles in the lungs.—The blood, at all times, contains two distinct kinds of corpuscules—the one red, the other colourless. The colourless corpuscles are highly organised vesicles or cells formed from the central portion of the red corpuscles. They combine with, or adhere to, the tissues through which the minute currents of the blood circulate, and become cells, performing different functions, and assuming different forms, in various parts of the body, in accordance with the primitive law regulating the development of the organism. Thus all kinds of epithelial cells are formed of colourless blood corpuscles, and each cell performs its own function quite independent of those by which it is surrounded.—Pus corpuscles are partially formed cellt; they may be seen in all stages of development, from colourless blood corpuscles in the serum of a blister, to large granulated vesicles, und well-formed epithelial cells in cutaneous diseases. The colourless blood corpuscles have an equally important share in forming "the results of inflammation," as they have in administering to nutrition.—When solely in consequence of their excess, their normal development ceases, they become pus corpuscles; but when they exercise an independent activity they give rise to specific forms of disease.—All the objects composing a tubercle of the lungs originate from colourless blood corpuscules. A tubercular disease of the lung is in all respects analogous to a chronic eruption of the skin (*lepra, psoriasis* and *acne*); the varieties and complications of the one are neither greater nor more numerous than those of the other. The colourless blood and pus corpuscle of man; inner vesicle of the red corpuscle, and the colourless corpuscle or lymph globule of the batrachia; the polygastric animalcules; the pollen grain of phenogamous plants; the the spore of epiphyllous fungi, are all analogous in their structure to each other; they are granulated cells, which may be dissected by Liquor Potassæ.

Kiesteine.—The discovery of a peculiar principle in the urine of pregnant females, by the existence of which a gravid state of the uterus could always be diagnosticated, was announced by M. Nauche, in the year 1831, to the Society of Practical Medicine at Paris. It is a gelatino-albuminous product, and is separated from the other elements by rest alone. M. Nauche stated, that if the urine be exposed for a few days in a glass, the kiesteine shows itself at the surface in the form of specks and oblong filaments, which unite in a pellicle or scum, a line in thickness. A portion of this sinks to the bottom of the vessel, and forms there a whitish deposit of a milky appearance; the rest remains on the surface, adheres to the sides of the glass, and is converted into a solid membraniform substance. M. Eguisier, who followed him, describes the pellicle as whitish, opaline, and somewhat granulated; it has sufficient consistency to admit of being lifted up with some care by its edges. Dr. Golding Bird considers it to be an imperfect caseous matter, mixed with crystals of the ammoniacal phosphate of magnesia, and, pursuing an idea of Professor Burdach, of Konigsburg, that the elements of the milk existing in the circulation may, during certain conditions, be eliminated, and not finding an outlet by the mammæ, be again taken up and excreted by the kidneys, he supposes such elements to enter into the constitution of the kiesteinic pellicle. His experiments were founded on the observation of about thirty cases. Eguisier is of opinion that kiesteine is an invariable attendant of preg-

nancy, and so well marked in its distinctive characters, as to prevent its being readily confounded with others. Becquerel, however, could not discover it in the urine of three pregnant women which he analysed.—As these writers made their observations on not more than sixty cases altogether, Dr. Kane, while one of the resident physicians at the Philadelphia Hospital, availed himself of the opportunities afforded him by his position, to institute a series of experiments on the subject, the result of which are as follows:—1. That the kiesteine is not peculiar to pregnancy, but may occur whenever the lacteal elements are secreted without a free discharge at the mammæ; 2, that though sometimes obscurely developed, and occasionally simulated by other pellicles, it is generally distinguishable from all others; 3, that where pregnancy is possible, the exhibition of a clearly defined kiesteinic pellicle is one of the least equivocal proofs of that condition; and, 4, that when this pellicle is not found in the more advanced stages of supposed pregnancy, the probabilities, if the female be otherwise healthy, are as twenty to one that the prognosis is incorrect. Dr. Kane has been unable to determine the nature of kiesteine by the aid of chemistry; he could not detect in it a notable quantity of either caseum or albumen. The urine was faintly acid up to the period of disintegration, when it underwent the ammoniacal development, and became markedly alkaline. The pellicle, examined in a microscope, possessing a magnifying power of 100 diameters, exhibited a well-defined series of flakes of a darkish yellow colour, made up apparently of minute granules, closely resembling, but rather more flattened than, the granules of the colostrum.

SAFETY EXPLOSIONS IN COAL MINES.—Mr. Murray gives in the *Gateshead Observer* the following method as obviating the use of the safety lamp in preserving a salubrious atmosphere for the miner, and being extremely economic.—Let a copper conducting wire, traversing the avenues and recesses of the mine, form the circuit, connecting the poles of a Smee's Voltaic Battery. This copper wire is interrupted at intervals by uniting wires of platinum; and these platinum wires—say about three-eighths of an inch long and one hundredth of an inch in diameter—form the several nuclei, or centres, of wire-gauze cages—each cage having a double fold of wire-gauze. On each immersion of the voltaic arrangement into diluted sulphuric acid, the platinum wires would be simultaneously ignited through out the entire extent of the circuit, and the gas safely exploded and consumed. A Smee's battery of very small dimensions would suffice; and this might be repeated at specific intervals.

MEDICAL NEWS.

MEDICAL ACTION.—An action to recover a bill for medical attendance was tried on the 25th ult. at Barnstaple sessions. The plaintiff, Mr. Joce, was non-suited on the ground that the certificate of the Apothecaries' Company did not prove itself. Evidence was given that it was like the usual certificates; but no sufficient evidence was adduced that it was the genuine seal. A question was put to us some time since, to which we responded to the above effect: a contemporary, to the same question, we noticed, gave a different reply; and hence probably this unfortunate result. It cannot be too well known, that since 1826, the Seal of the Company has ceased to be a proof of the genuineness of the document, unless proved by a party having actual knowledge of the original seal, who should be an officer of the society.

CHEAPNESS OF MEDICAL CORONERS.—We believe, says Mr. Wakley, that the disbursements of the *attorney* coroner are one-third greater than those of the *medical* coroner. And why? *Because the former is obliged to incur more than three times as much expense for the payment of medical witnesses.* Frequently, be it observed, when an attorney coroner has heard medical testimony, he is *guided* by it, *led* by it, *controuled* by it, just as it has fallen from the lips of the witness, without having *had* a clear and distinct knowledge of any one medical sentence that has been uttered. (To do Mr. Wakley justice he is sufficiently economical in his payment of medical men for their testimony. If the act for the payment of medical witnesses be not a dead letter, it is no fault of his. The hon. member contrives to attend twice as many inquests as other coroners think necessary (the payment being per inquest), and to pay medical men, by his own confession three times less! So much for the disinterested friend of the profession! Our readers will do well to remark, that though the other coroners pay three times more for medical testimony their expenses exceed his but by *one-third.*)

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J. W. Beresford, Macclesfield; W. E. Taylor; W. Fraser, Sunderland; H. S. Lyford, Winchester; W. Sewell, Bowness; J. Corrie, Thornton, Bradford; S. S. Perkins, Exeter; T. Ager, Castle Hedingham.

Friday, October 14, 1842.

T. Peat; J. Moore; H. D. Scholfield; J. Rhodes; O. Boyd; C. Telfair; J. Vickerman; J. I. Acheson; J. M. Best.

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ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR, TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. SERRES, Member of the Institute, of the Academy of Medicine, Professor to the Museum of Natural History, Paris, &c., &c., &c.

Summary.—On the Primitive Division of Organs—their mode of increase—Formation of organs by juxta-position—On the Morphology of organs—Views on the fundamental element of form in organic and inorganic bodies—On the law of homozygy, or association of organisms—Relation between the constituent elements of an organ and its mere form, considered in reference to organogeny—On the true meaning of an organite—Mode of discovering in the adult, traces of organites, &c.

Our last remarks teach how theories follow one another in the sciences; how a system once predominating, and widely spread, leaves behind it opinions which survive long after the hypotheses which engendered them have ceased to be received. The pre-existence of germs ended in producing a final division between organic and inorganic bodies; these latter, in fact, being devoid of germs, were necessarily separated from organized beings; but while exaggerating their differences, their analogies were overlooked. The sciences were divided into two classes, and an eternal divorce pronounced between them. The increase of inorganic bodies takes place by juxta-position, the molecules of augmentation placing themselves, according to certain laws, around the primitive body. That of organized bodies, on the contrary, was considered to take place by intus-susception, the primitive tissue enlarging or dilating itself. Such was the generally received opinion. M. Chevreul, however, remarked that this expression though applicable to the total process of development in living bodies, ceased to be so when considering the immediate constituents of the tissues, their increase being explicable only by juxta-position, as that of inorganic bodies. According to this celebrated chemist, the phenomena of nutrition consist in the juxta-position of new organic molecules upon the old ones.

The same law which presides over molecular nutrition, in like manner governs the primitive formation of the tissues and the increase of organs. Thus the blastodermic membrane in the embryo is originally composed of two layers placed in juxta-position, the internal mucous, the external serous; subsequently, however, a vascular layer becomes interposed between them, so that this membrane is definitively constituted by the juxta-position of three layers. Now it is from these three layers that all the organic systems arise, and, whatever may be their varieties of form and of function, the mechanism of their construction is a repetition of that of the blastodermic membrane. Thus is the osseous system produced in the first instance by a layer of fibres, upon which new layers become successively placed, and which, according to Malpighi, might be compared to the leaves of a book. In like manner, the osseous tissue of the tooth is constituted by a succession of fibrous lamellæ, not unlike the osseous layers; and upon the primary osseous layer we shall find deposited, by juxta-position, the vitreous layer. The osseous fibres, moreover, do not extend continuously along the entire length of the bone; but when examined by the microscope, they appear to be formed by a series of fibrillæ super-added the one to the extremity of the other. The elongation of bones and of teeth takes place then by super-position, and their increase in breadth by juxta-position.

Although differing greatly from the osseous system, the formation of the nervous system takes place in the same manner. On examining by the microscope the two layers of nervous matter originally constituting *the spinal marrow*, we observe that the fibres composing them appear interrupted at various spaces, instead of forming a continuous fibre from one extremity of the spinal marrow to the other. The increase in length as well as in breadth of the spinal marrow is then similar to that of bone. It is by a successive juxta-position of nervous layers that it acquires its future volume.

With regard to the vascular system, which forms a continuous whole closed at all parts, this mode of formation at first sight appears repugnant to nature. Still, during the primitive formation of the embryonic circulation in the omphalo-mesenteric membrane, we may see the capillary vessels, scattered in small isolated plexuses, join themselves one to another, thus producing branches, and finally trunks, and this lengthening takes place by a succession of hollow fibres, joined one to the extremity of the other. While this elongation is taking place, a similar increase in breadth is being accomplished by a juxta-position of layers, the number of which remains yet undetermined.

But above all others, the muscular system appears subjected to this general mode of formation. Every one knows that the force of a muscle is proportionate to the number of fibres constituting it; that the muscular fibre is interrupted in its length, at various distances, by fibrous intersections, of which the *recti* muscles of the abdomen afford an example. This fact is distinctly shown by the microscope in the infusoria, in the larvæ of insects, and in the fibrous bands constituting the muscles of the annelida, of the earth worm, and especially of the leech. Lastly, this arrangement may be seen with the naked eye in the muscular bands entering into the structure of the intestinal canal. A remarkable feature in this aggregation of parts is, that union takes place only among similar structures: thus nerves join themselves to nerves, arteries to arteries, and so on; but never do we see arteries and veins unite themselves with nerves, or the elements of the osseous fibre associate themselves with those of the muscle. The cause of this phenomenon is, however, perfectly unknown to us.

We now come to the *form* of organs. In the theory of pre-existences the form of organs was at all periods of their development considered immutable; thus placing organogeny in direct opposition with inorganic bodies. As in the latter the straight line is the fundamental element of form, so was the curved line made that of the form of organized bodies; the surface of inorganic bodies being angular, that of organic bodies was necessarily rounded: in a word, as the forms of the first are all derived from combinations of the straight line, so were those of the second from combinations of the curved line. These facts are essentially true if we consider organs or organized beings, merely at the last term of their development. Then the rounded and circular forms predominate in all parts of the animal organization. The bones are rounded; their heads most frequently globular. The muscles elliptical, orbicular, or perfectly circular. The viscera are all more or less of a semi-elliptic form.

But passing to the earlier stages of development, the circular lines are lost. The spherical, circular, or globular forms do not exist; they are the result of the concourse of two or more lines, the juxta-position of which forms the curve, the cavity, the sinus, the hole, in a word all the parts which in the normal condition of the perfect animal are more or less circular. We thus arrive at a conclusion totally opposite to the preceding, that there is not, in the organization of animals and of man, a single line primitively circular. The form of the greater number of muscles results from the succession of an immense number of almost straight fibres implanted, like the feathers of a quill, upon a central stem. In the orbicular muscles, no single fibre makes the circuit of the muscle. The curve is produced by a succession of almost rectilinear fibres, forming a polygonal half ring; for the circular muscles are always the result of the union of two half muscles. So do we find the *orbitar* cavity formed by the junction of five bones. The *acetabulum*, the *glenoid* cavity of the scapula, that of the temporal bone, &c., all result from a similar mechanism. Finally, we may instance the vertebral ring, forming an enclosure round the spinal marrow, and which is composed of four or six primitive lines, each constituting bony nuclei in the young embryo. In tracing the development of any organ, we find it originally composed of several fragments; its permanent form resulting from the association of these primitive materials. The form of the liver in man and the mammifera results from the fusion into a single organ of the three or four lobes originally representing it. The prostate surrounding the root of the urethra is primitively composed of two, three, or four lobes. The kidney, which in the adult man constitutes a simple organ, is in the embryo represented by eight or ten separate kidneys, small but perfectly distinct, and which in the progress of development become blended or united together into a single organ.

Thus are the organisms, at their commencement, in the very young embryo, composed of various fragments, divided and sub-divided *ad infinitum*, when we penetrate into their intimate nature. This is the first condition of their existence. The final end of developments is to unite together, and to associate these separate and disjointed parts. Now, this union of the elements of organisms takes place in two ways; either by association or by incorporation. In association, the elements of organisms become joined together; in incorporation they do more than join, they become intimately united or blended together. These two conditions of organic transformation are not entirely analogous, for in association, the similar elements although joined together are separated by a dissimilar tissue, whilst in incorporation the similar elements are in immediate contact. It happens in some cases, through the progress of development, that organisms, in the first instance associated, become eventually united by incorporation; this change is, however, always preceded by the transformation of the dissimilar tissue which becomes homogenous, and which thus favours and compels incorporation. I will give an example:—The vertebral column is formed by the association of twenty-four vertebræ, separated one from another by the interposition of a dissimilar fibro-cartilage, which remains up to extreme old age. During the whole course of natural life, these vertebræ remain united by association and not by incorporation. The sacrum which terminates the column inferiorly, is itself formed by five vertebræ, associated at first by the interposition of a similar fibro-cartilage. But long before puberty, the fibro-cartilage becomes ossified, the five vertebræ become united by incorporation, and form but a single bone, which,

however, preserves the generic characters of it mingled elements. Thus the vertebral column is an associated organism, the sacrum an organism united by incorporation.

In union by association, the organisms preserve an independance which is but little affected by their composition. The muscular fibre, which by its multiplied associations constitutes muscles of such various forms and sizes, experiences from these associations no alteration in its characters; it is the same with the nervous system: the same also in a great measure, with the intimate structure of the osseous system. In incorporation, on the contrary, the elements which become united together lose by this fact a part of the character peculiar to them. The sacral vertebræ, for instance, in man, lose by incorporation, some of the characters of the adjoining lumbar vertebræ: it follows, therefore, that the less the elements of organisms are associated together, the more they retain their original character, and that the more intimate their combination, the more their dissimilitude increases. This dissimilitude is, however, more apparent than real; for, by disassociating the elements of organisms,—that is to say, by restoring to them the independance which they have lost by their union —we also restore them the characters masked by incorporation. Now association and incorporation being the two generating processes of the *form* of organs, it follows that the variations of form, however numerous or diversified, affect but slightly the nature or essence of the organism. An instance of this may be found in the serous membranes, which vary so much one from another in form and size, but are in their true nature so identical. All primitively represent a bag closed at all parts, a sac without an opening; all are destined to protect and envelope certain organs. The essence, the radical of every serous membrane is then the same—a bag; the accessory is the form here and there assumed so as to accommodate itself to the inequalities of the organs upon which it is spread. Thus we may readily conceive that the bag embracing the heart and the large vessels proceeding from its base, must have a much more complicated form than that surrounding the lung; or that the *peritoneum*, enveloping organs so various in configuration, extent, and size, must be very different in form to the *tunica vaginalis testis*, or the synovial membrane of a tendon.

The manner in which these various forms are produced is another point, upon which much speculation has been expended. Borden supposed them to be engendered by friction; Bichat, in refuting this idea, substituted that of the pre-existence of these membranes, as well as of the organs themselves. The true explanation, however, is, that they are formed conjointly with the organs; that each bag is at first separated from the organ which corresponds to it; that by the progress of development, the organ draws nearer to it; that it finally becomes placed in contact with it, and gradually buried within its folds. We now perceive how the serous membranes borrow from the organs which they cover their various forms; but this diversity of form changes neither their structure nor function,—it disguises their resemblance, but does not alter it. There is here, then, but a repetition of the common law; an organic element once given, nature varies and modifies in a thousand ways its combinations, by diversifying its mode of association. But before association, the elements of organisms are isolated and separated one from another, and it is only in this state of isolation and independence that they preserve the plenitude of their peculiar existence and distinctive characters. A striking example of this is furnished by the glandular system. In the earlier stages of the human embryo, the elements composing this system are found divided and subdivided *ad infinitum*; but by the progress of development, these elements become united and combined in various ways, producing bodies differing greatly in form and appearance. On tracing them, however, to their earliest formation, we find these glands reduced to a simple, primitive element—the generator, as it were, of the whole glandular system. This element is a little bag endowed with a small duct, something similar to the gall bladder in miniature. This little bag, with some modifications, is universally found in the composition of glands: whether in the *glandulæ solitariæ* of the intestines, or in the *glandulæ agminatæ, conglobatæ, conglomeratæ*, &c.

A remark which has doubtless struck anatomists, is, that the various processes adopted in anatomy for the purpose of unfolding the structure of organisms, are merely directed towards reducing the organs to that primitive state of simplicity possessed by them at their first formation. Association has united and as it were confounded the elements entering into their composition; disassociation isolates and separates them anew; art acts in an inverse sense to nature. Whether we employ water or exposure to air; whether we adopt maceration, or the simple action of acids or of alkalies, as an aid in our minute dissections, we merely destroy the cement binding together the constituent elements of organisms, and thus reduce nature to its primitive condition.

Association then tends to group together the constituent elements of the organisms, uniting one with another parts which have a common and independent action. This aggregation of the elements of organisms is expressed by the term *organite*. A few examples will render the meaning of this term intelligible. The vertebra is primitively composed of four points of ossification —two for the lateral processes, and two for the body; the occiput has eight, the sphenoid twelve: each of these points, considered separately, is an *organite*. The fœtal kidney is frequently composed originally of six small kidneys, the associated tubes of each of which terminate in a distinct *papilla*; this small *papilla*, the tubes converging towards it and the body resulting from this association, constitute an *organite* for the kidney. So also with the testicle, the liver, the prostate, &c.

Incorporation, which we may consider as association in a more advanced stage, unites and groups together the *organites*, in the same way that association groups and unites the constituent elements of parts; it brings into a state of unity the various organites constituting an organ. Thus it is by incorporation that the several points of ossification join together in forming a bone, or that the various *organites* of the prostate, the kidney, &c., form in the adult a body of so uniform an appearance. While on this subject I may remark, that the variations of form produced by the incorporation of *organites* are subjected to the same conditions as those resulting from the association of the elements of organisms. Thus the numerous varieties of teeth met with throughout vertebrated animals, are reducible to two dental *organites*—the incisor and the canine. The molares, so different in appearance to either of these, result entirely from the combination of these two dental radicals. We see, then, as an inevitable consequence, that neither the form nor the number of organs are absolute attributes of organization: we can only consider as such the constituent elements of organisms, and from the diversity of their combinations result those different aspects under which they are presented to the eyes of the observer.

We have previously shown, that the possibility of reducing organs to the primitive simplicity of their composition, formed one of the fundamental proofs of association. Is such the case with incorporation? Can we find in the adult traces of these *organites*, the incorporation of which has formed the organ? The examination of their *solidescence* discovers to us these new facts. We may perceive, on viewing the structure of their parts, that their consistence varies in different points, showing, in some measure, the nature of their composition: for by comparing the anatomy of the embryo with that of the adult, we shall observe that the most consistent parts correspond exactly to the organites which have become incorporated, so that we may find upon organs as many solidescent zones as there were primitively separate organites. This law becomes of great value in attempting the classification of those bones or remains belonging to animals long since extinct.

The parts which enter into the composition of an animal are thus divided, not only during the first stage of their existence, but also when association has already commenced their combination; and they do not entirely lose this state of division until incorporation is accomplished. Each of these elements possesses a determinate form; in one place it is fibrous, in another it is composed of a bag closed at all points; sometimes this bag opens externally, at other times it is transformed into a small blind canal (as the cœcum). These forms, special to each organic element, change and modify themselves by their association, sometimes assuming an elongated, sometimes a radiated, or even an elliptical form, in the compounds or organites to which they give rise. Lastly, incorporation in its turn, combines these organites, producing by their coalition the normal forms presented by parts in their complete developement. Thus the fixed point is the organic element, whilst the forms of its combinations may, and in fact do, offer infinite varieties. It is then association, of which incorporation is but a more advanced stage, which is the principle of the morphogeny of organisms: it unites that which was divided, and by uniting it engenders form. To be enabled more fully to appreciate these organogenic facts, we should compare them with the other hypotheses which have been broached. To what, in fact, was morphogeny reduced by the theory of pre-existences? To a simple developement. The form of organs being considered invariable, the only difference acknowledged between the embryo and the adult was with regard to size. The cranium was considered but a vertebra dilated or expanded by the progress of its developements. The brain was regarded as the product of an efflorescence or shooting forward of the corpora pyramidalia and olivaria; the radiated fibres of which, traversing the grey or cortical substance, proceeded to form the hemispheres and commissures. Nothing could be more simple than this manner of considering organogeny, but it was found to be in manifest contradiction with facts. I will confine myself to one example: Take the brain of an animal with a double cerebellum, but with simple cerebral hemispheres; on examining its base, we find four corpora pyramidalia and four olivaria, the radiations of which traverse a double annular protuberance. Take, on the other hand, a brain with four cerebral hemispheres and a simple cerebellum, as in the genus *polypus*; the base presents, as in the normal state, but two corpora olivaria, two pyramidalia, and one annular protuberance. Now, if the cerebral lobes were but the efflorescence of the corpora pyramidalia and olivaria; if these bodies were really their roots, who does not perceive that when there exist, as in the first case, four corpora olivaria and four pyramidalia, traversing two annular protuberances, there should necessarily be developed four cerebral lobes? still there are but two. And again, in the second case, would not the existence of four cerebral hemispheres necessarily require the presence of four corpora olivaria, four pyramidalia, and a double protuberance? The protuberance is, however, simple, and we find but one corpus olivare and one pyramidale on each side. Is not this a most decisive contradiction to the above hypothesis? We shall, moreover, as we proceed, find this theory of organic preformations overwhelmed by the mass of facts accumulated against it.

Fuligokali.—This is a preparation of soot and potassa, which is prepared in the following manner:—℞ caustic potassa, 20 grammes; powdered soot, 100 do.; distilled water, 2 do.; boil for an hour, cool, dilute with water to facilitate filtration; filter, evaporate, dry, in order to obtain the fuligokali in a black powder or in scales, and put it in dry and warm flasks. For sulphuretted fuligokali:—℞ fuligokali, 60 grammes; caustic potassa, 14 do.; sulphur, 4 do.; heat the sulphur and the potassa with a little water; after the sulphur is dissolved, add the fuligokali, evaporate, dry, &c. Fuligokali has been tried by M. Gilbert on his patients at *Hopital Saint-Louis*, both internally and externally. He made with 30 grammes of lead, and 1 or 2 grammes of fuligokali, a pommade in which he recognized resolutive, detersive and slightly stimulant properties.

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

Delivered by C. J. B. WILLIAMS, M.D., F.R.S., Professor of the Practice of Medicine, and of Clinical Medicine, at University College.

GENTLEMEN,—At our last meeting we were engaged with the changes occurring in connection with the vascular system, in inflammatory fever. But this is not the only system affected, for the *nerves* are involved also. There are changes observable, too, in the characters of the blood itself; —it becomes altered, so as to cause cupping and the existence of the buffy coat;—the nature and meaning of these alterations I explained to you on a former occasion. It has been supposed by some that the changes arising in the blood may be the cause of fever,—but this is unquestionably erroneous, seeing that the fever *precedes* the appearance of the buffy coat. The buffy coat may occur also *without* fever; this has frequently been noticed in cases of pregnancy. There is no doubt, however, that the blood, when thus changed, may keep up the irritation, and modify the character of the secretions. Too much fibrin in the blood produces general excitement in the system. When the fibrin is diseased, a cachectic state is sure to supervene. The existence of pus in the circulation will be attended with hectic fever. Other matters may also cause similar symptoms, such as sugar, in diabetes,—the poisonous matter in cases of gangrene is also, as we before noticed, pervaded through the system. The blood, again, is the medium through which the critical discharges, attendant upon the resolution of fevers, are effected. When inflammatory fever arises from constitutional causes, as cold, the symptoms bear a very strong resemblance to idiopathic fever,—thus, the shivering, depression, loss of appetite, &c., would leave us quite uncertain whether an idiopathic fever, or some local inflammation, was about to follow. In the former kind of fever the secernent and nervous systems are affected in a much more serious degree than in simple inflammatory fever. There are few cases in which the latter species of derangement proceeds to a greater extent than in inflammation of the testicles. The fever is generally proportioned to the amount of local inflammation present; but there are exceptions even here. In tonsillitis, for example, there is very frequently rather considerable preceding fever, although the inflammation itself may be comparatively trifling. The fever usually runs high in young and plethoric subjects, and in those who are easily excitable; it is also rather severe in persons who are not very susceptible of its influence, but still in whom it has been determined. The fever is low in old people, and in those who possess little blood and are phlegmatic. Its intensity is much modified by the part which is the seat of inflammation. It is high, for example, in fibrous and serous membranes, as in the various fasciæ, and in the pleura and peritoneum. It is high, also, in phlegmonous inflammation. In inflammation of the stomach it has a rather low tendency. When mucous membranes are affected, the fever assumes a sort of mixed character—also, when cellular tissue is affected, or when the mischief is seated in large joints, &c.,—this depends in a great measure upon the effects of the products upon the secretions. In persons who have been habituated to hard drinking, inflammation is generally of a low type; also in cases where violent shocks have occurred; and, also, in cases arising from the influence of animal poisons,—all these have a tendency to depress. We thus see that much depends upon the previous habits of the patient, upon the seat of the inflammation, and upon the nature of the causes that have determined its occurrence.

We now proceed to a brief consideration of the *local* symptoms of inflammation—and sometimes these precede the constitutional, in cases where the cause has been local. It is not at all uncommon for the constitutional symptoms to mask, as it were, for a time the development of the local ones, so that the latter become much more manifest as the former decline. The first of the local phenomena that we may notice, is *redness*—this, as well as heat, will be in proportion to the vascularity of the tissue; that is to say, the more vascular the tissue is in its natural state, the greater amount of redness it will exhibit when subjected to inflammation,—thus we find the skin (not the epidermis, of course) becoming very red when inflamed. The redness is also sometimes intensely marked in inflammation of mucous membranes,—it disappears, generally, after death. I told you, before, that the redness is due to the increase and tortuosity of the vessels; it is owing, also, in many cases, to the existence of patches of *extravasated* blood. This hæmorrhagic redness is distinguished from simple inflammatory redness, by the former being usually found in the form of a patch; whereas, in inflammation, the blood being contained *within* the vessels gives rise to a *striated* appearance. Again, the redness that is caused by inflammation or congestion, may be temporarily removed by *pressure*, but this exerts no influence in altering the colour which is produced by extravasation. The redness observed in serous membranes, as a result of inflammation, is much less intense than in mucous membranes—the dots that are seen generally exist in the vessels of the subserous tissue. In fibrous tissues the vessels are still less distinct. In parenchymata, the redness is considerable. The colour is greatest during the time of determination and congestion, for, when more advanced, and effusion has taken place, the vessels become relieved, and the redness is diminished. Another pretty constant result of inflammatory action, is *swelling*, which is commonly in proportion to the complexity of the tissue in which the inflammation occurs. It arises, in the earlier stages, from the size of the vessels, and afterwards from the effusion that is produced—this is well seen in cases of erysipelas. The special seats of swelling are the cellular tissue and parenchymata; these, you will remember, are the textures in which *pain* is generally at its *minimum*, so that pain and swelling may be said to exist in inverse proportions. Swelling is very rarely observed in serous membranes, for all the effusion that their inflammation produces, takes place within their cavities. In some cases, only parts of organs become swollen—in others, the whole substance is enlarged, as in the liver, and in glands generally, especially the lymphatics. Swelling in the skin is well seen in urticaria. It becomes very great in the eye-lids, scrotum, and also in the rima glottidis; in fact, in all *loose* tissues. Another phenomenon is *heat*—to this I have before alluded. I told you that it is doubtful whether it is produced in the inflamed part, or whether it is carried there by the increased quantity of blood. Hunter found the latter method to hold good in a case of hydrocele, in which he noticed that the temperature of the scrotum, and that in the axilla, were precisely equal. The heat is easily ascertained by means of a small thermometer. The next symptom of inflammation is *pain*—arising from exalted sensibility or from the pressure of distension. In a low degree, it is only itching. The pain will be much modified by the nature of the tissue in which the inflammation exists—inflammation of a nerve, for example, will, of course, be very painful. The degree of pain will depend much upon the *tension* that is produced in parts—thus, any effusion taking place under a strong fascia, which, not yielding, is attended with much tension, will, of necessity, cause great pain; this is the case in tendinous structures generally. Much suffering is experienced when inflammation attacks the periosteum. Again, in parts where there is much distension, as in inflammatory toothache, great pain is felt, on account of the very unyielding nature of the surrounding structure. Also, in inflammation of the internal ear, when effusion takes place. But in loose parts, where the tissue is of such a character as to admit of easy distension, it will be naturally expected that much less pain should accompany the inflammatory process. In the intestinal canal, for instance, there may be inflammation with very little pain; or, indeed, without any actual pain at all, so long as the parts are kept in a state of rest, and not allowed to suffer pressure; but then, so soon as food is allowed to pass along the inflamed portion, very great distress may be occasioned. In parenchymata, there is not, usually, much pain attendant on inflammation. In serous membranes, the degree of pain is variable —sometimes being considerable, and sometimes very slight; it is generally greater in them than in mucous membranes, because the substance of the latter is much more yielding, as in parenchymata, there is little tension. Where the sensibility is great, pain may be experienced on the application of pressure over the inflamed part, although, without pressure, no suffering may have been complained of. In addition to the *general* results and features of inflammation, as occurring in the various classes of tissue, to which I have now briefly called your attention, you will be prepared to expect that there should also be some *special* modifications produced in connection with the proper *functions* of *particular* organs, and these may be called *functional* symptoms; thus, when the heart (or rather the pericardium) is the seat of inflammation, we find the action of the organ materially increased, giving rise to palpitation —afterwards, when the inflammation has continued some time, and fluid is effused into the pericardium, the action of the heart becomes diminished and oppressed, and the whole circulating system is affected in proportion. Again, in inflammation of the lungs, the functions of respiration will, of course, be interfered with to a greater or less amount, and it is this *functional* impairment that renders the disease so formidable. In many cases of inflammation, the effects are not confined to the precise limits of the local mischief, but *other* parts, at some distance from the inflamed organ, suffer also, and present what are called *sympathetic* indications, or symptoms—thus, inflammation in the liver, is often accompanied by pains in the shoulders, especially under the right shoulder. Another example of sympathy is, the retraction of the testis that occurs in inflammation of the kidneys; also the pain, affecting the glans penis in cases of inflammation of the bladder. Sympathy is also manifested by the occurrence of vomiting in many cases where parts at a distance from the stomach are the seats of injury or disease. I must here caution you against coming to the conclusion that *inflammation* is present in all cases where *pain* is complained of, and also against concluding that inflammation is *not* present, because pain is *absent*. Nothing is more common than to find great pain arising from what is termed *irritation*, in nervous subjects, without the least trace of anything like inflammation being discoverable—and, on the other hand, we not unfrequently see cases where inflammation *does* exist, but where, if we trusted to the symptoms of pain alone, as indicating the inflammation, we should be led into the most glaring and dangerous mistakes. It is in torpid subjects, whose nervous system is unusually obtuse, that we generally find *latent* inflammations occurring; i.e., inflammation, unattended with the ordinary symptoms of its existence. In persons, who are highly sensitive, or, in other words, are *nervous*, the very slightest causes may give rise to excessive pain, without the presence of inflammation,—these cases are, as a general rule, easily distinguished from true inflammations, by the absence, in the former cases, of *heat*, fulness of pulse, and the ordinary constitutional symptoms that inflammation is known to produce. When inflammation eludes our touch and vision, we may be greatly aided by sound—thus, if we wish to ascertain the size of the liver, as affected by alterations in the quantity of blood contained in it, we may do so by the use of *percussion*, which will indicate, to an experienced person, the precise dimensions. The changes, sensible to the ear, that are effected in the organs of the chest, especially by inflammation, &c., will be fully considered at a future period. I might have given you other examples of the alteration in the special functions of particular parts, such as diarrhœa in enteritis—constipation in peritonitis—incontinence of urine in cystitis—spasms in inflammation of the spinal chord—and delirium and coma in phrenitis. A good exemplification of sympathetic affection is found in the reference of pain to the rectum, constituting tenesmus, in cases of inflammation of the colon.

Inflammation has been divided into *acute*, *subacute*, and *chronic*. Hippocrates and Celsus limited the acute to 14 days—after this, to the 24th day, they considered it subacute—and if it continued beyond the 24th they called it chronic.

PRIVATE COURSE OF OPERATIVE SURGERY.

By J. NOTTINGHAM, Esq., Member of the Royal College of Surgeons of London.

LECTURE IV.

HITHERTO our observations relate chiefly to incisions made from without inwards; but we not unfrequently have to make them in the opposite direction, or from within outwards.

In some few operations special incisions of this kind are employed, upon which a great deal depends,—as in dividing the stricture in operations for strangulated hernia, or in the employment of the lithotome caché, when this is chosen for the operation for stone; or in that of the curved bistoury used for dividing the sphincter ani in cases of fistula, the edge and point of which are covered by a sliding guard when the instrument is first introduced; but such incisions, as well as the instruments used in making them, will be noticed in connection with the respective operations for which they are required, and we have here to speak chiefly of the more common incisions made from within outwards, with or without the aid of a director.

Before opening what are called sinuses we should ascertain the direction and extent of the chief canal, as well as of its principal branches, if the probe or director will easily enter the latter, before taking up the bistoury; and it is also desirable to notice whether or no the complete division of every part of the sinus can be effected without injury to any artery, vein, nerve, or other important structure, and to modify our proceedings with a view of leaving them intact.

Where an external opening exists into which the director may be introduced, this instrument is passed through it and pushed to the opposite extremity of the sinus; and then the bistoury, its back resting in the groove of the director, is moved on as far as the latter will carry it. The heel of the bistoury may now be depressed, and its point made to press against the corresponding portion of the integument, through which it is pushed, and the structures in front of it may next be divided by sawing motions of the instrument, or by suddenly drawing it through them.

In some cases the point of the bistoury may be guarded by a bit of bee's wax stuck upon it, or the probe pointed bistoury may be used instead of the one that is sharp at the extremity: and here, as the instrument is not driven through the integument at the farther end of the sinus, its heel must be raised, and in this way its edge made to divide all that is requisite by pressing against the structures between the two extremities of the canal to be laid open.

In laying open some old fistulous canals it is well to be provided with a strong bistoury, or one firm and stiff in the blade; for the density of the sides and textures around such canals is often much greater than that of the neighbouring parts, and will occasionally try the strength of an ordinary instrument.

The opening of canals, such as we now allude to, may require to be made upwards, downwards, to the right hand, or to the left; but the surgeon may generally place himself in such position with regard to the parts to be divided as to effect all that is required to be done, and that without any particular difficulty.

We are occasionally recommended to divide layers of cellular membrane raised over the director, by passing the bistoury through them with its edge downwards, or turned towards the groove of the director, so that by every touch the edge of the instrument is being spoiled and worn off by the iron surface it falls upon. If a man's hand be so unsteady that he find the director a support to him, he may be allowed it as an indulgence; for in such case the bistoury might perhaps have been pushed too far, every now and then endangering parts beyond the bounds of the cellular tissue to be cut through, but in other circumstances we would recommend, that a surgeon should handle his cutting instruments with as much respect for their edges as a joiner would have, who is not caught shaping out a piece of wood with a chisel on the surface of a blacksmith's anvil, and is very apt to complain of the old timber he works upon if he find that its hidden nails are spoiling his saw.

Turn the back of the instrument, then, to the groove of the director, and have mercy upon its edge, and upon the teeth of the bystanders. In cases where very narrow sinuses are met with—so that a director or bistoury of ordinary size can hardly be introduced without at once cutting or lacerating the parts—a very small silver wire may be passed into the canal, when a delicate bistoury is made to follow, the bistoury having a groove on its back, by which it is kept in contact with the wire; the approximation being further ensured by a little bridge crossing the groove, under which the wire was made to glide.

There are instruments made for instrument-makers, and there are instruments made for surgeons,—the latter to be used, the former to be admired. Perhaps the bistoury with a bridge on its back is of the admirable class, and may be regarded as belonging to matters of taste. I remember, however, that Lisfranc would not, on any account, be without such a bistoury in his pocket-case, for I rather think he invented it, as it was spoken of by all his followers, and invariably mentioned by the private teachers of operative surgery, who lectured under his auspices.

In cases where two or more incisions meet at either of their extremities, or cross each other as in the crucial incision, the enclosed flaps or angles of integument have to be raised by dissection, for which good finger nails, forceps, and a scalpel or bistoury are required.

In raising up a piece of integument, we should aim at following the layer of subjacent cellular tissue, not too near the integument, nor yet too near the fascia below, but along what we might call the middle of the layer of reticular membrane, where its net-work is the most loose; such dissection should consist of incisions of the cellular membrane, steering clear of the parts above and below it, which will be much facilitated—if we have the aid of a good assistant, who constantly renders the parts visible to the surgeon—by clearing away the blood with a sponge as fast as it oozes from the divided vessels.

In raising flaps of moderate size (by dissection) the touches of the bistoury may be often made in both directions; first, the edge coming towards the operator, afterwards going away from him—the instrument being turned round at that extremity of the incision which is next to the surgeon. This proceeding is more graceful than repeating the first touch of the knife over and over in the same direction, and is more especially applicable after the crucial or the **V** or **T** incisions have been previously made. Where the texture of the cellular membrane is very loose, the trouble of dissection may be shortened and the pain lessened, by drawing the portion of integument to be raised towards one side, and employing the finger nail or the handle of the scalpel to break through the stretched cellular structure on the other.

In cases where adhesion has taken place, and where (as far as the surgeon is concerned) the reticular membrane might be said to be lost or obliterated, the proceedings with the scalpel must be more careful, and the separate incisions or touches of the instrument will generally require to be shorter.

In some of the operations for hernia, an extraordinary degree of care is required in the employment of the bistoury; the sac must be approached with great caution, as well as the intestine within it; good finger nails, a delicate and educated sense of touch, dissecting forceps with points, that seize easily and hold firmly, will assist us materially in such operations; but to prepare himself more completely for them, the young surgeon should practice that mode of raising bits of cellular membrane with the forceps, and then passing the bistoury horizontally through the texture so raised, which manœuvre is required especially on these occasions; for if the sense of touch be tolerably good, if the surgeon can with the aid of it detect the gliding motion of one layer of serous membrane within the fold of another, and discover the occasional presence of fluid between them, supposing this not to be great enough in quantity to separate widely the sac and the intestines, it will generally be easy to avoid injuring the latter; the main difficulty being to know where we have really arrived at the sac, which requires to be opened; so that, as far as speaking of this particular mode of employing the bistoury is concerned, little need be said beyond a hint about attaining the habit of raising delicate fibres or layers of membrane with the point of the forceps, and then passing the bistoury carefully under the extremity of the other instrument.

We now proceed to offer a few remarks on the subject of punctures, which, to speak of them in a very general way, may be made with large or with small instruments; indeed, some of the instruments made for this purpose are so small as to shield the patient from any injury on almost every occasion, as well as to protect the surgeon from any suspicion of having committed himself—a sort of thing which occasionally happens where a larger instrument has been inconsiderately plunged into a tumour of doubtful character.

The first consideration, then, to be especially attended to, before employing any kind of puncture, is the accurate diagnosis respecting the real state of the parts and the peculiar character of the malady affecting them; and, fortunately, the differences between tumor, abscess, and aneurism, &c. are generally such as to enable one to decide where puncture is perfectly safe, and where it is better to avoid it; yet cases do now and then occur, where such diagnosis is embarrassed; and if, on such occasions, it is impossible, without doubt, to decide, and yet absolutely necessary to act, we had better take the benefit and protection of two opinions, which, in such circumstances, afford the best excuse for a mistake, should this by any chance occur.

The needle, bistoury, lancet and trocar, are amongst the principal instruments used in puncturing; when the needle is employed, the name acupuncturation is admissible on account of the instrument used.

In employing the needle, we should first notice, whether its point be sharp, and also remember, that it must not be so small and weak as to bend under the pressure required to make it pierce the surface and enter the parts to be punctured, or explored; nor so large and thick as to make an aperture in the surface or parts beneath which, might, under any circumstances, be attended with risk.

We may easily suppose that there can be no great difficulty about introducing a needle into any soft part of the body, nor would it be worth the trouble to offer any particular rules for the guidance of so simple an operation. The needle may be introduced either perpendicular to the surface, or with any inclination to it, that the position and condition of parts may require; and should there be any difficulty connected with the density of the structures, or the weakness of the instrument to be overcome, it is better to seize the latter a little nearer to the point than is requisite where the needle enters with little pressure.

Where acupuncturation is employed for the relief of rheumatic or neuralgic complaints, the needles are generally pushed to a greater depth, and require to have such heads of sealing wax, or such handles attached to them as may enable us to withdraw them without the help of any other instrument.

In making punctures with the bistoury, their depth may be measured by the position which the middle finger takes on the right-hand-side of the blade of the instrument; they may be perpendicular to the surface or inclined to it; the latter direction being more particularly required where it is thought fit that the external and deeper parts of the puncture should not correspond, or that the opening may be in any way rendered valvular.

Every one is acquainted with the ordinary method of holding the lancet, in bleeding—the blade turned to a right angle with the haft.

The lancet commonly requires to be inclined to the surface into which we are about to push it; the integument and parts beneath gently stretched and steadied, and the point of the instrument applied, which then receives a gentle pressure from the hand at the other extremity, and transfixes the skin. When an incision is to be made with

the lancet as well as a puncture, the instrument is carried farther on, and then raised at the heel.

Certain precautions are required in the employment of the trocar, which it is easy to forget or to overlook; its introduction should be rendered easy, and the after exit of the fluid not prevented by accidents which have to be guarded against during the operation.

In cases of ascites, where the trocar has to pass through the linea alba, or other part of the abdominal parietes, its introduction will often be much facilitated by previously making a small incision in the integument with the point of a bistoury or lancet; the trocar is then easily glided through the fasciæ and other less resisting structures, and it does not enter the peritoneal cavity with a jerk, or endanger the viscera beyond it. But, suppose that the instrument has a stunted or not a very sharp point, that it is pressed upon the resisting linea alba without a previous touch of the lancet the parts give way to it in a little time, and it often enters suddenly, under the influence of the force exerted and in a manner that the hand of the operator does not seem nicely to measure.

Care should be taken that the further extremity of the canula is not stopped up by contact with the surface of any internal organ, which might prevent the entrance of the fluid we wish to evacuate; the introduction of a director, or some such instrument, through the canula, will answer this purpose; or a second smaller tube, may after the withdrawal of the trocar, be glided into the canula which having apertures in its sides near the further extremity will allow the fluid to pass through them, the extremity being rounded like that of a catheter.

We cannot fail to understand how the trocar is to be handled at the time of its introduction; the handle of it takes its place in the palm of the right hand of the surgeon, who steadies the canula upon it by the pressure of his index finger, and at the same time directs the point of the instrument to the part it is about to transfix; the trocar is then pressed onward, and directed by the hand. As soon as we have the sensation that the instrument has entered the cavity, it is directed to the canula, and the surface through which it passes are steadied with the fingers of the left hand, and the trocar drawn out with the right.

Every one who desires to be adroit in the surgical manipulation of instruments, such as the bistoury, lancet, trocar, or scissors, must take every possible opportunity of practising with them on the dead subject; and as the dead bodies of the lower animals,—which are easily obtained,—will answer many useful purposes connected with this pursuit, we are not to complain of any want of those materials which are essential to our preliminary labours.

REVIEWS.

On Injuries of the Head Affecting the Brain. By G. J. Guthrie, F. R. S., Surgeon to the Westminster Hospital, Opthalmic Hospital, &c. &c. Churchill.

(Concluded from page 109.)

SECOND NOTICE.

In our last number we made some general remarks on the character of this work, and shall now, according to our promise, place a more extended outline of the volume before our readers.

The subject of which our author treats may be subjected to a two-fold division:—1st. Those injuries of the head that produce *concussion* of the brain; and 2d. Those which produce *compression*, or *irritation*, of that organ. As systematic arrangement of the diseases of which he treats seems not to have been the object of our author, the subject is discussed not in the order above indicated, although the undercurrent of arrangement which pervades the volume will permit of such a classification. The whole subject of "*concussion*" is discussed in the short space of thirty-three pages, quarto though they be; yet we have no hesitation in saying that the substance of all that is known, or worth knowing, on the subject, is given in that short space. In the remaining one hundred and twenty pages the subject of "*compression*" is treated of, both as regards principle and practice; and we have numerous interesting cases of this affection resulting *directly* from depressed bone, extravasated blood, foreign bodies—such as balls lodging in the brain; or *indirectly* produced from injuries of the scalp, from erysipelas, or from wounds or operations inducing suppuration under the scull, or fungous growths, or cerebral protrusions through artificial openings in the cranium.

The acknowledged difficulty in forming a just prognosis and diagnosis of all such injuries has induced our author to recur to the physiology of the nervous system, in explanation of the phenomena of lesions of different parts of the brain. Our author justly makes this the starting point of his inquiry, and has given a condensed statement of all the facts which experimental physiology has unfolded, which bear upon this subject. Yet much light cannot be elicited from this source. General conclusions have been deduced regarding the cerebrum, cerebellum, medulla oblongata, and spinal chord, which are valuable so far as they go, and are important, regarding the general or collective functions of each of these parts. Thus it is established that the cerebrum is the seat of intellect, memory, and sensation, and that injuries of the cerebrum affect all these powers; that the cerebellum is the *moderator* of the *movements* of the system; that the medulla oblongata is the seat of *respiration*, and that the spinal chord, with the nerves attached,—the incident, sensitive, and reflex motive nerves,—preside over the acts of ingestion and egestion, retention and exclusion. These are highly valuable facts, and capable of important applications to surgery and medicine, and tend to make us regret that the means that have brought these general facts to light have been ineffective, regarding the functions of the different portions or subdivisions of the cerebrum. Thus enlightened by physiology, our author leads us to the subject of concussion of the brain, regarding the proximate cause of which much obscurity exists. In some instances a bruised, in others a lacerated, state of the brain has been found; but, as in others, no apparent morbid state existed, it is probable that the morbid condition to which the term concussion has been applied exists in a molecular change, which the microscope would be the fit instrument to discover. The *symptoms* of concussion, which are very correctly and vividly described by our author, may be said essentially to consist in a greater or less insensibility—in a diminished state of the circulation—in irregular, though not generally stertorous, breathing—and in a medium, or more frequently, contracted state of the pupil. When death is not the immediate or speedy result of the accident, reaction takes place, and the patient is liable to be cut off by cerebral inflammation. The following mild case will impart a very correct idea of the symptoms and of the proper treatment:—

Frederick Paris, aged 27, a shoemaker, fell from a scaffold 25 feet high, and was admitted into the Westminster Hospital on the 3rd of August at 11 o'clock, two hours after the accident, apparently insensible, the skin clammy and cold, pupils contracted, pulse feeble and irregular, respiration quickened, no relaxation of the sphincters. The head was shaved in order to discover more readily any external injury, but none appeared of consequence, although the scalp could not bear to be touched without the patient showing some signs of uneasiness. The pulse rose to 100, became regular and fuller towards the evening. He spoke incoherently from time to time. A cold lotion was applied to the head. Calomel and colocynth, salts and senna were administered, and, in the evening, he was bled to 12 ounces with the most beneficial effect; he slept, and awoke next morning quite collected, and from this time he gradually recovered, with only a slight giddiness occurring occasionally.

We perfectly agree with Mr. Guthrie, that when the symptoms of reaction set in we should not wait the effects of blisters and purgation, but should have recourse immediately to the lancet; and we are of opinion that if the lancet fail in effecting a cure, no other means can be depended upon. Mr. Guthrie has done good service to surgery by inculcating, both by precept and example, vigorous depletion in these cases; and the *result* of his practice, as given in the work before us, amply justifies the procedure.

After some less important cases of insensibility, arising from intoxication, mimicking the symptoms of concussion and the supervention of *mania* upon injuries of the head, our author proceeds to *compression* of the brain, and has adduced a body of interesting facts from the wide field of his experience, illustrative of almost every variety and modification of such affections. Is the brain compressible, or susceptible of being compressed into a smaller space, is a question not yet decided by physiologists. Our author enters upon the question, and after referring to the various opinions entertained of the intimate structure of the fibres of the brain, leaves the matter where he found it, or rather shirks the question upon that ground; but from the phenomena attending syncope and sanguineous congestion of the brain, thinks that compression may take place, or, at all events, that more blood may exist at one time within the cranium than at another. On this last point we entirely coincide with our author, and it appears to us of no practical moment whether the diminution arise from an absence of blood, or from an abnormal condensation of the cerebral substance. Whatever may be the proximate cause of compression, or state of the brain, in this affection, there cannot be a doubt that the mechanical cause producing it, is adequate to tell both upon the nervous fibre and upon the blood circulating in the viscus,—and thus to have a two-fold influence upon the function of the cerebral organ. But we must hasten to the more surgical part of our subject.

The symptoms of compression from *extravasated blood* are fully and accurately given—a remark that applies to the symptoms of the other kinds of compression, or from other causes. Our author has viewed his subject here, more in detail than in a general or comprehensive manner. We think there are symptoms *common* to compression of the brain, from whatever cause, and others that appertain to the peculiar cause or causes exciting the compression. The symptoms indicative of compression, generally, are insensibility, accompanied with paralysis, convulsions, or twitchings of some parts—dilated pupil, slow pulse, and stertorous breathing, a group of symptoms easily distinguishable from those of concussion, and referable exclusively to simple compression. The *symptoms* again, indicative of *particular causes* of compression, such as fractured and depressed scull, extravasated blood, foreign bodies lodged within the brain, or under the cranium, must be looked for in the history of the case—in the external peculiarities generally of the case rather than in its essential characters. Our author very properly notices the paralysis or convulsions that arise from compression, to be for the most part seated

in the opposite side of the body from that of the injury; and attributes the symptom, along with the numerous authorities he quotes, to the decussation of the fibres of the medulla oblongata. But all the fibres of the medulla oblongata do not cross; and how does it happen that compression should produce in one paralysis, and in another convulsions? Our author has not attempted to solve these problems. We think we can. The very circumstance that *all* the fibres of the medulla oblongata do not decussate, will enable us to explain how the paralysis or convulsions should sometimes be on the same side, at other times on the opposite side from that of the cerebral lesion; and with regard to the supervention of paralysis at one time, and convulsions at another from the same cause, we must recollect, that the fibres of the brain may be affected in a two-fold manner by the compressing cause. The compressing cause may simply irritate the fibres, with which it is in contact, and thus cause convulsions, or the compression may be more intense when paralysis will supervene. Or we may have both paralysis and convulsions existing simultaneously from various degrees of compression induced in different contiguous fibres of the brain: or, lastly, we may have paralysis and convulsions alternately in the same muscles from varying degrees of compression on the same cerebral fibres. This last may take place from the varying state of the circulation of the brain modifying the condition of the compressing cause, and consequently with the corresponding results. But we must proceed to the practical *details* of the author.

Compression of the brain, accompanied with fracture of the cranium in all its modifications and details constitutes the largest portion of the work before us, and we can strongly recommend this part of the work to the careful perusal of our readers. As fractures of the cranium are in themselves not more dangerous than fractures in any other bone (except in so far as such fracture may indirectly or directly affect the brain), our author urges the propriety of not wantonly exposing the bone in our anxiety to ascertain the existence or non-existence of a fracture; for the existence of a fracture does not influence the treatment, unless the case is so urgent as to require or demand the application of the trephine. The following case illustrates the treatment to be followed, whether the fracture is apparent or not:—

A soldier, partly in liquor, received a blow from a spade, in Lisbon, in the beginning of 1813, which cut the upper part of the head across the sagittal suture, and rendered him senseless. He soon recovered, and a slight fissure or fracture, without depression, was discovered on his being brought to the Estrella Hospital. As there were no symptoms indicative of mischief, I desired that his head might be shaved, and the divided parts brought together by sticking plaster; that the head should be kept raised, wet, and cold; that he should be bled to 24 ounces, purged, starved, and kept quiet in a dark room. The next day he said he had slept well, but that his head felt painful, as if something tight was ied around it. Pulse 96, small and hard; bowels not open. Blood was taken from the arm to the amount of 10 ounces, when he appeared ready to faint. Calomel and jalap, followed by Infus. Sennae cum Magnes. Sulphate, were given, and acted well, and he was greatly relieved. The calomel was continued every six hours. In the evening, however, the pain and tightness of the head returned, with a pulse of 110, hard and full, and were again removed by the loss of 24 oz. of blood. He remained easy until the evening of the next or third day, when the pulse quickened to 120, became small and hard, and he complained of severe pain in the head. It was evident that inflammation of the brain, or its membranes, had commenced, and that it must be subdued; he was therefore bled until he fainted, 40 ounces being taken away. This entirely relieved him, and calomel, jalap, senna and salts were again administered, with great effect. On the fourth day he was easy, the pulse 94, soft and full, the mouth being tender from the mercury. The wound did not heal by adhesion, but by granulation; and under the continuance of the starving and purging system he gradually got well without any more bad symptoms, having been saved by the loss of 128 ounces of blood in three days.

When the fracture is complicated, however, with laceration of the middle meningeal artery, or depression of the scull, and the symptoms continue urgent, after the requisite depletory means have been pushed to the full extent, the patient should be trepanned. This is the rule of practice—a rule which gives full effect to depletion, both as a means of preventing evil consequences as well as of cure; and which sanctions the application of the trephine only when that application is imperiously demanded. The depressed fractures that usually demand the application of the trephine are those of adults, more particularly those in which the depressed portions present rough and angular projections to the dura mater, or in which spiculæ of bone penetrate the dura mater or brain, or in which the source of irritation cannot be removed without the application of the instrument. There is one kind of depressed fracture to which we have time only to allude, but which shows the difficulties that surround the subject. We mean depressions of the *inner table*, without fracture of the outer plate of the scull. After collecting the most important cases of this kind on record, our author sums up the practice to be adopted in the following words:—

The records of eighteen centuries have produced but little information on this most interesting subject; and if the cases were collected which I have overlooked, as well as those which have been altogether omitted, I apprehend that very little more would be gained. I therefore think it safe and reasonable to come to the conclusion, that although these things have happened, they will rarely occur again. I have never, in the great number of broken heads I have had under my care, on many different and grand occasions, actually known the inner table to be separated from the outer, without positive marks of an injury having been inflicted on the bone or pericranium, however slight that injury may have been; and although it is not possible to doubt the fact of fracture of the inner table having occurred, it is very desirable in a practical point of view not to bear it in mind; for if a surgeon should be prepossessed with the idea that the inner table might be so readily fractured, and separated from the diploe placed between it and the outer table, and thus cause irritation or pressure on the brain, few persons who had received a knock on the head, followed by any serious symptoms, without fracture or depression, would escape the trephine, and the worst practie would be again established. An operation should never, then, be performed under the expectation that such an accident may have happened, unless it is apparently required by the urgency of the symptoms indicating compression or irritation of the brain, which cannot be relieved by other means.

I by no means intend to imply by these remarks that a blow on the head will not frequently detach the dura mater from the inner table by rupturing its vessels, and thus give rise to compression or irritation of the brain from the effusion of blood or the formation of matter, or that the inner table may not from the same cause become diseased, and be the cause of ulterior mischief; but these are altogether different states of injury to that which I have just noticed, and require special consideration.

It is not generally known, we believe, that a sabre wound that penetrates the scull does not produce a simple incised wound of the bone, but as has been shown by Mr. Guthrie (and we believe for the first time), is uniformly attended with a fracture or a splintering, with depression of the inner plate, and requires the application of the trephine. The following passage illustrates the practice to be pursued in such cases:—

A British soldier received a wound at the affair of El Boden, in front of Ciudad Rodrigo, from a sword on the top of the head, and accompanied me to Sabugal, on the retreat of the army. The bone was apparently only cut through, yet the inner table was depressed, and felt rugged when examined with the probe. The symptoms of inflammation increasing on the fourth day, and not being relieved by copious bleeding, I removed a central portion of the cut bone by one large crown of the trephine, and took away several small pieces which were sticking into the dura mater, after which all the symptoms gradually disappeared.

As these cases at first are often attended with no serious or alarming consequences, but are almost uniformly *fatal* if not relieved by operation, a question arises, when should the operation be performed? The question is one of some difficulty. The general rule of practice is not to operate till some symptom of danger arise; and this rule of practice is, we think, without exception. The practice of operating to *prevent* bad consequences, though sanctioned by the high authority of Pott, is now justly exploded. If our author in the following passage wishes to inculcate a revival of the practice of Pott we would feel it our duty to oppose and denounce the practice in the most positive manner; but as we know from the whole tenour of the work that this cannot be the meaning of our author, we are bound to apply the practice to cases of a particular kind; and we think he has expressed himself too strongly and unguardedly even regarding these; for though it is a very proper thing to remove pieces of bone that are sticking in the membranes of the brain, yet, as a general rule, it is also a very improper thing to trepan when no symptoms exist demanding the operation. We must take for granted then, that in the following passage the symptoms are supposed to be *urgent*, and the practice inculcated will then be sound and unexceptionable:—

It appears to me that too much stress is laid upon a difference which is supposed to exist in the danger of trephining a man on the first or on the seventh day after an accident, and that an error may be committed in believing that the trephine is a more dangerous instrument on the first day than on the seventh. The question here is not whether the man is to be trephined or not? but which will be the best and safest day or time to do the operation? I do not hesitate to say the first day. I believe the violence to be greater when done on parts already in a state of inflammation than when they are sound. I am quite satisfied, that when the inner table is sticking through the membrane, and into the brain itself, the individual will in most cases ultimately die miserably of the accident, if not relieved by art; and that it is less safe to let him designedly run the certain risk of cerebral irritation, which, when once excited, is often indomitable, than to remove the cause, and so endeavour to *prevent* the evil.

The remaining part of the work is allotted to injuries of the scalp, and to the consequences of such injuries, as erysipelas and suppurations externally or internally to the cranium. Collections of pus *under* the cranium constitute some of the most important and difficult cases in surgery. The difficulty, however, is not regarding the principles of treatment, for those have long been established, and may be said to consist in preventing, if possible, by suitable anti-phlogistic means, the occurrence of such mischief, and when pus does form, of evacuating it without delay. The difficulty exists

when there is no guide externally to the seat of the evil; shall we, then, perforate the scull at random, or shall we not perforate at all? The question is not mooted by our author, yet it is a very important one, and which engaged much of the attention of the older surgeons. Dease and Pott inculcate the evacuation of *the pus* by every means in our power, and we think the practice commendable. The lodgment of pus within the cranium is incompatible with life. To refrain from operating is to consign the patient to inevitable destruction; the operation, therefore, can do no harm, and may be productive of incalculable benefit. The same reasoning applies to the removal of matter from under the dura mater, by puncturing or incising that membrane, or even, if need be, of plunging the lancet into the brain. The following cases, detailed by our author himself, will show the value of this line of practice:—

Absalom Lorimer, of the 42nd regiment, was wounded by a musket-ball on the 10th of April, 1814, at the battle of Toulouse, which carried away a small portion of the scalp, just above the right temple, fracturing the bone slightly, but without any depression. No symptoms occurred demanding more than the ordinary attention for the first fortnight, during which period he had been bled once, purged, and kept on low diet. On the 25th he complained of pain in his head around the wound, and shooting to the back part; pulse 60, pupils dilated. An incision being made to the bone, the pericranium was found detached, the bone fractured, but without any obvious depression. V. S. ad ℥xx. calomel and colocynth; and, as the pain continued, the bleeding was repeated in the evening.—26th. Pain in the head greatly relieved; pulse 60; bowels torpid. Ten ounces of blood were taken from the temporal artery, the calomel and colocynth, salts and senna were repeated. On the morning of the 29th, the symptoms of compression having increased, the trephine was had recourse to, and the fractured portion of bone was removed; a layer of coagulated blood was found on the dura mater, which puffed up into the opening. In the evening he became convulsed, the pulse intermitted, and he died. On examination, a large abscess was found on the right hemisphere of the brain, having the ventricle for its base, with some matter on the surface of the brain, and between the dura mater and the bone at the base of the cranium.

On the morning of the day that I performed the above operation, I had done another of the same kind at the Hospital des Minimes; the dura mater rose up into the opening made by the removal of the circular piece of bone by the trephine, in a similar manner, and without pulsation; and on my puncturing it a considerable quantity of pus oozed out. The opening was enlarged, and the flow of matter was daily encouraged, until it gradually diminished, and ceased with the formation of granulations and the drawing in and cicatrization of the part.

After fractures with depression, or the operation of trepan, *hernia cerebri* sometimes occurs; and our author has made some excellent observations both on the pathology and treatment of such affections. It is proper to remember, that inflammation of the brain uniformly accompanies such protrusions; and that the antiphlogistic treatment constitutes the basis of every plan of cure, whether the protrusion should eventually require to be sliced away, as in cases in which blood is incorporated with cerebral matter: or graduated pressure be adopted, as in cases of simple cerebral protrusion.

We have thus given a full and impartial review of the work before us. The chief defect in the work is a want of arrangement: for a book of reference this is a serious evil. We would recommend the learned author, in the next edition, to divide the book into chapters, and furnish a table of contents; this would render the volume much more useful. The space we have allotted to this notice shows the high opinion we entertain of the work. We hope the author will continue his career of activity and usefulness. He has already done the profession and public some good service by his literary labours; and we shall be happy to meet our author soon again in the field of surgery, in the cultivation of which he has been already so eminently useful.

On Nervous Diseases, Originating from Morbid Derangement of the Liver, Stomach, &c., occasioning Low Spirits, Indigestion, and Gout; also, on Disorders produced by Tropical Climates, &c. By GEORGE ROBERT ROWE, M.D., F.S.A., Mem. Roy. Coll. of Phy. and of the Roy. Coll. of Surg. of London, &c. &c. &c. Fifth Edition.—John Churchill.

IT seems almost a work of supererogation to criticise a treatise which has now reached its *fifth* edition, because this very fact proves that it has been favourably received, and that it requires neither the announcement of the critic, nor the panegyric of the friend, to recommend it to public notice, or to secure it private patronage. But it is, almost as much, our duty to point out, in our journal, and record in our pages the progression of works, which, like this, are firmly established with the public, as the appearance of those which are candidates for the same honour.

We have no hesitation in placing this work among the first ranks of those which have succeeded, for very few preceded it, notwithstanding the *Times*, in a very flattering notice, in May last, when speaking of the *fourth* edition, stated that it contained "much that had been already laid before the public by Dr. W. Combe, and other medical writers,"—whereas the *first* edition of the volume was published in 1820, a period when neither Dr. Combe, nor any other medical writer of the present day, had touched upon the subject. Passing over this blunder of the *Times*, and proceeding to the author himself, we find his style at once simple in detail, yet opulent in fact; concise, and yet leaving little to desire; practical, yet possessing the charms of theoretical disquisition. The first chapter, devoted to "Low Spirits," and the Influence of Sympathy, is thus cumulatively composed:—

When the stomach is disordered, languor, debility, restlessness, and impatience are the consequence, and the great sympathy between that organ and the skin is manifested by eating of shell fish, which will, in some peculiar habits, produce a violent eruption, and the external application of cold in fevers occasionally excites vomiting; also, worms lodging in the coats of the stomach, by their irritating powers on its nervous sensibility, cause convulsions in the whole frame. Nothing makes more surprizing changes in the body than the affections of the mind, and when it is considered that the action of the heart is greatly accelerated, or nervous energy preternaturally diffused by fits of anger, the unity of action between the arterial and nervous systems is daily demonstrated. It is but reasonable, therefore, to suppose, when the circulation is languid, that universal debility will be the result, and the contrary when stimulated.—pp. 18 and 19.

These remarks are corroborated by the experiments of Dr. Beaumont on the stomach of Alexis St. Martin. They proved that sudden emotions of mind, as well as febrile action, occasion an almost immediate change in the vascular appearance of the mucous lining of the stomach, and in the secretion and sensible properties of the gastric juice. When St. Martin suffered from a febrile attack, Dr. Beaumont found that secretion of the stomach was suspended, and that if any food were introduced at that period, it remained undigested for four and twenty hours.

The symptoms of hypochondriasis, vapours, or, as Dr. Rowe calls this form of indigestion,—in which, *we* believe, the brain plays a very principal part—Low Spirits, are exceedingly well described, and must strike the invalid as the fruit of observation and extensive practice. We give them verbatim:—

Want of appetite, indigestion, debility, faintness, and sense of great sinking and fulness of the stomach, flatulence in the intestines, acid eructations of wind, nausea and frequent vomiting of dark fetid liquor, pain and spasms extending across the epigastric region, great depression of spirits, impatience and anxiety, clay-coloured evacuations from the bowels, sometimes in a relaxed, at others in a costive state, hæmorrhoids or piles and frequent discharges of blood, flushings of heat and cold shiverings all over the body, pains in the back and shoulders, spasmodic affections of the muscles, tremblingly alive to a sense of danger, restlessness and want of sleep, sudden startings on the slightest unexpected noise, frequent sighing, a sense of great oppression about the region of the heart, with violent palpitations, the skin is dry and constricted, tongue furred and an unpleasant taste in the mouth, fœtor of the breath, tremors more particularly when the stomach is empty, with frequent yawning, pains in the head, with frightful dreams and hallucinations, pulse irregular and intermittent, giddiness and confused noise in the ears, vision frequently obstructed and imperfect, impaired memory, wandering and unconnected thoughts, want of resolution, considerable difficulty in being roused to either mental or corporeal exertion, former occupations which were regarded with pleasure and satisfaction now become tedious and irksome, and many other symptoms which it would be tedious here to enumerate.—pp. 24 and 25.

The rules laid down for diet, exercise, and amusements, are judicious and scientific. We regret we cannot make room for them, but the following extract will be found highly interesting, not only to the invalid but the student:—

The principal and most powerful causes of indigestion, and all those distressing maladies resulting from it, are the present fashionable modes of intemperance, and the almost total negligence of taking air and exercise. *Homini cibus utilissimus simplex; acervatio ciborum pestifera et condimenta perniciosa, multos morbos multa fercula ferunt.** When the prevailing revolutions of the day to night, and the night to day, are considered, independent of the great indulgence in luxurious habits of living, and the sudden transitions from a temperature equal to that of a tropical climate, to one under the frigid zone,—by rushing from a crowded theatre or ball-room into a dense or frosty atmosphere,—it is but reasonable to conclude, that those organs, whose healthy actions are so dependent on the regularity and temperament of the body, must ultimately become the objects of attack. Hence, we daily witness the robust appearance of the labouring peasantry compared with the pallid hue of the artist and mechanic, who is shut up in a heated room, frequently respiring the same air which has passed through his lungs: the one will be seen enjoying his meals with the greatest avidity, while the other's appetite becomes vitiated, and he loathes the sight of food.—pp. 87 and 88.

From the copious extracts which we have given, it will naturally be inferred that we entertain a very high opinion of the utility and value of this work: we therefore recommend it warmly to our readers, as a practical treatise from which much is to be gained, and a scientific dissertation from which a great deal is to be learned. Before concluding, we shall offer one remark, which, however, is philological, or rather literary—yet, as a matter of curious information, it may not be altogether unacceptable. In quoting the line at page 97,

Incidit in Scyllam qui vult vitare Charybdim.

Dr Rowe, in common with almost every author we have ever opened, who has introduced this

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* Pliny, Lib. 11, c. 52.

quotation, has given it to Virgil. It is strange that a poet whom we have all read, and at that period of our lives, too, when memory is most tenacious, should be so often misquoted. But such is error—a fact once mis-quoted, mis-stated, or mis-represented, how difficult to set it right again! The line is not in Virgil, but in the "Alexandries" of Philip Gaultier, a French poet of the 13th century, whose works were printed at Lyons, in 1558. It forms a part of the passage where the poet addresses Darius, when, flying from Alexander, he falls into the power of Bessus,—

Incidis in Scyllam cupiens vitare Charybdim.

This blunder is unimportant in a work like the present, but it is worth contradiction, if merely from its universality.

TO CORRESPONDENTS.

Mr. Cooke *can have the numbers if he will name them. Their safe transmission through the post will be doubtful.*

J. W. B. *of Houghton le Spring, sends us this mournful case for advice. We give the sufferer the benefit of its insertion.*

"Sir,—For about six years I have suffered from an affliction, which has nearly exhausted the desire to live, and quite drained my purse. I have had the best medical attendance that I could procure, and all to no purpose. I write to you as a dernier resort, *to ask if you, or any of your contributors, can and will give me the information through your paper, (which I now regularly see), how I might likely get some relief from my misery. The disease is that of sore legs. They at first ulcerated between the calf and ancle, and they now are one continuous sore from ancle to knee. The discharge is of a thin gummy nature, and has a fœtid smell, and proceeds as it were from a number of pin-holes all over the leg. I am now quite free from ulcers beneath the skin; the skin has a reddish livid hue, and seems as if inflamed. My general health otherwise is quite good; I have a good appetite and am quite regular in my bowels. My present treatment is washing the legs in warm water every morning, and applying simple ointments, and bandages rather tight. I take now no medicines."*—J. W. B.

If our Correspondent gives us his name in confidence, we will forward to him the replies elicited by his case. We cannot engage to publish them.

Dr. Turnbull *tells us that we were in error in supposing him to have abandoned the use of hydrocyanic acid for bisulphuret of carbon, in certain diseases of the eye, and thus explains himself:—*

"One reason why I did not rest satisfied with the great effects produced by the hydrocyanic acid, was, that its action, like that of all other medicines, decreased in power by continued application, thereby rendering it necessary to have occasional recourse to other medicines, in order to ensure a more speedy recovery. Another reason was, the reluctance of many individuals to submit the eye to the action of so potent a medicine."

We ought we presume then to have said partially abandoned. *The Doctor is quite right in supposing that intentionally we would do neither him nor any one injustice.*

Antimonopolist, *who came from Tring (about* 10 *miles) in his praiseworthy anxiety of serving the good cause of Medical Reform, sends us a long letter, declaratory of the disappointment he suffered from the proceedings of the British Medical Association. He tells us he considers our abstract a very good summary of what took place. He is of opinion that the resolutions were not of a practical character—that they were of almost a worthless character—while the objects they dwelt on were chimerical, and after a few strictures on the objectionable nomenclature Dr. Hall would introduce into the profession, and the novel pronunciation Dr. Grant would introduce into common use (ex. grat. "coporations" for "corporations") dilates in profuse panegyric on the merits of Dr. Lynch's oratory, which, in the excess of his admiration, he declares to be worth the supper money. He concludes thus:—"I think that a general meeting of the whole profession should be called, some mode of action should be adopted, for which all might contend. Drs. Webster, Lynch, and Granville, might represent the association—the counties might send delegates. Tring and Aylesbury we are assured would do their duty, and would not fail to operate on their country members." This would be something like the sort of* action *wanted, and we should be not a little pleased to see it exhibited. In answer to one remark of our Correspondent, we must remind him that a year ago when we enlarged on the mismanagement of what should be a useful association, we recommended strongly that it should be joined generally, in the hope that an influx of new members while increasing the strength of the union, would lead to some improvements in the Government. That recommendation was not we have reason to know without its effect, though we regret to say the effect produced no general improvement. For some time, as if the society deprecated publicity and support, there existed a rule that no reports of the Council's doings should be published, except in one medical journal; and when subsequently, by a special vote, the* "Medical Times," *was added as a second, the secretary took the liberty of omitting to send the voted documents, and thus the only one good thing done by the society in the year was vetoed by the society's secretary! What association could stand against such mis-rule from within as this!*

Walter C.—Mr. H. W.—A Subscriber, Exeter.—"A Humbugged Member"—L. L.—A. B.—A Constant Reader, Edinburgh—*under consideration.*

The Case of Gun-shot Wound, by Mr. Smith, as also several other Correspondents, next week.

A Subscriber.—*The College of Surgeons does not "possess the power of dismissing from their body a member who has avowedly identified himself with, and practises on his patients according to the Homœpathic doctrines." Nor does the Apothecaries Company possess any such power over licentiates.*

Mr. Atkinson.—*We endeavour to avoid* all *epistolary controversies: one on the subject named, would be* (we *think) most of all imprudent.*

R. D. H. *is thanked: his note will appear next week. Other answers next week.*

Our Subscribers are respectfully reminded of our late circular. *Several of our Irish friends are thanked for their immediate response: and we can hardly do better than offer the promptitude with which they* ever *answer to the call of honour, as an example to some gentlemen who live nearer our office, without being a bit nearer a settlement in our ledger.*—Verbum Sapienti.

NOTICE.

ON THE 1st OF DECEMBER NEXT, WILL BE PUBLISHED, AS AN APPENDIX TO OUR ORDINARY NUMBER, A **MEDICAL ALMANAC**, REPLETE WITH MATTER THE MOST VALUABLE AND INTERESTING FOR THE MEDICAL PROFESSION.—IT WILL CONSIST OF 72 QUARTO COLUMNS.—PRICE 4*d*. PLAIN, 5*d*. STAMPED.

THE MEDICAL TIMES.

SATURDAY, NOVEMBER 19, 1842.

Aude aliquid brevibus Gyaris, et carcere dignum,
Si vis esse aliquis. PROBITAS laudatur, et alget.
Criminibus debent hortos, praetoria, mensas,
Argentum vetus, et stantem extra pocula caprum.

WE notice with a pity for the author truly painful, and a height of disgust which almost makes us ashamed of belonging to a Profession contaminated by his membership, the commencement of an infamous attempt to prop up the sunken fortunes of a doomed journal by a course of hebdomadal calumnies, personal and professional, on every distinguished Member of the British Faculty. The dull writer—the vulgar *bravo* of a still more vulgar master—is to occupy, it would appear, the pages of a *professedly* scientific journal with the very opposite view to that of extending the boundaries of human knowledge, or enlarging the benign influence of the human sympathies: his one, sole object is to be, to hack the character and mutilate the peace of all above him, by debasing with slander all those below them. High science being the sure provocative of his Vandal envy, its possessor's private character is to be ripped up, not for the purposes of truth, but, to serve the misrepresentions of malevolence: unsound opinions, absurd reasonings, immoral expressions and principles, are to be freely attributed to him; all that vulgar impudence and daring unprincipledness can allege, to rob him of that reputation, which is at once the honour of his profession and the subsistence of himself and family, is to be unscrupulously charged on him;—nothing, in truth, within the range of the vile Scribe's imbecile powers is to be withheld, however ungentlemanly, dishonourable, unmanly, or base, which may have the remotest tendency to excite ridicule, contempt, ignominy, and hate, for all who have dared by their genius or labours to advance the noble interests of science, or cast a halo of glory over our much abused Profession!

And why is calumny thus to be poured out like water? And why are the peaceful, the ennobling studies of science and humanity's best friends to be broken in upon by this dæmoniacal exhibition of malevolence? Vice herself, accustomed to services rendered at a cheap rate, revolts against the reason. It is a hope—an improbable, a forlorn hope—to prolong the days of a death-smitten journal. A declining income was in question, and in a remote chance of partially saving it, the demoralized speculator goes merchandizing in characters! In coolly laying down his plan, the ruined reputation, the murdered peace of a medical brother is counted as so much possible addition to the year's receipts! Oh, virtuous projector! oh, most wise speculator!

And what think our brethren of this cool opinion, that the ready way to secure their favour as men, is to weaken those amiable ties of respect and amity which when strongest are, alas, but too feeble, to darken that human nature which, when brightest, is always, alas, too clouded, to multiply those heart-burnings which when least nurtured are always, alas, too numerous—that the sure way to win their support as practitioners is to fan the flames of that personal envy and uncharitableness, which already form the Faculty's Hell, to drag down into the mire the few men whose elevation reflects dignity on their brethren—to strip, in fine, our Profession of public respect and confidence, and, discrowning it of its usefulness, its honour, its purity, to degrade its members into mere conceited bullies and unlearned slander-mongers? Are our brethren flattered with this *honouring* notion? We think we know their answer. The very touch of a journal conducted on such detestable principles will be felt to be contamination; directly or indirectly to support the moral pest, will be to

register one's name as the wicked *fautor* of a mercenary slanderer; to be its reader and a denizen of good society will be considered a moral impossibility. The demented calumniator never made a falser step—never more miscalculated. He has made bad worse. The moribund *Lancet* following in the same wake with those receptacles of filthy slander—the Paul Pry and Penny Satirist—must inevitably meet the same fate. Increasing enlightenment—a changed, a purer taste, has irrevocably pronounced the death warrant of all such public culprits.

Those of our readers who are accustomed to us, know, that the condemnation we have thus strongly expressed, originates in no prudishiness of overwrought morality,—no silly affectation of transcendental respectability. There *is* a bold and manly criticism of the words, the deeds, the public character of our public men; there *is* a refined analysis of their powers — a searching scrutiny into their merits. *This* is at once the privilege and duty of journalists, which we have not only claimed for all others, but have exercised with no timid freedom ourselves. But we see an immeasurable distance—the distance between honest virtue and mercenary vice—between this and our contemporary's awkwardly elaborated system of slander—a system which endeavours to make the sensible appear fatuous, the worthy contemptible, the learned ignorant, the experienced unwise, the good vicious, by the false, the deliberately false, attribution of sentiments to them which they never would and never could utter. As Christians,—as gentlemen,—as men, we feel it a primary duty to brand so low and mercenary a criminal with the name that alone tells his vices, and to hold up to public desecration a course which, if attended with the success the sordid speculator in the ruin of characters so foolishly expects, would make our Profession, what a foreign savant, who formed his opinion of us from the pages of the *Lancet* in its earlier days, once thought us—"a heap of calumniators topped by a few calumniated."

Mr. Erasmus Wilson, whom a hard fate has compelled to sell his abundant leisure to a harder master, promised in one of his recent and better moments, to follow Mr. Lane, and withdraw from the contaminating connection if this threatened career of calumny and fabrication, were recommenced. It *has* recommenced; his brother surgeons and practitioners, who recognize no gentleman in one continuing in *his* position, have not yet heard of his retirement.

A parallel suggests itself to us in the incidents marking the rise and fall of the *Lancet*. As Napoleon, when his downfall was imminent, sought succour by reverting to the early arts which earned him his elevation, so the debased and vulgar Wakley, presenting *one* point of resemblance to the fallen hero, returns for aid, at the feeling of loss, to the old practices which purchased him his success. But the early arts of Napoleon were the noble arts of a generous and ambitious statesman: the early practices of Wakley, the incendiary blackguardisms of a mercantile assassin of character!

Scribendi recte sapere est et principium et fons

In the last number of the Medical Times we expressed a high opinion of Mr. Grainger's contribution to the cause of Medical Reform. We now proceed to discharge the promise we then made, of early laying its principal contents before our readers.

The liberation of the profession from the *trading druggists*, who, by a strange anomaly, are now at its *head*, has always been a main object of Medical Reform. Perhaps no country in the world but our own, presents a legal system in which men who, by their education, attainments, and duties, occupy the sphere of gentlemen, are compelled, in order to enjoy the liberty of exercising their professional competency, to connect themselves as inferiors and subordinates to a city guild composed of tradesmen—respectable, it is true,—but still tradesmen. On this subject Mr. Grainger thus expresses himself:

> I freely admit, what indeed has been universally conceded, that the Apothecaries' Company have made most successful efforts to promote this essential object, and that to the successive extension of their *curriculum* very large part of the advance made by the profession at large, in scientific knowledge, is attributable. As it is through the medium of this body that the great majority of practitioners enter the profession, its character and operations become objects of moment. Without indulging in any personal allusions, it is necessary to point out distinctly that neither the constitution of the examining board, nor the powers under which it acts, are calculated to realise what the spirit of the age demands. It is not becoming that the most important affair connected with a liberal profession should be entrusted to a trading company, nor that the only act of Parliament regulating medical education should compel a man of science to commence his career as if he were entering upon a mere handicraft occupation, by a lengthened apprenticeship. The clause enforcing this apprenticeship of five years has been, in the estimation of those best qualified to form an opinion, the great barrier to the scientific education of the medical student in this country, and until it is entirely effaced from the statute book, all attempts to effect improvement in this way will be in vain. It is, for instance, mainly owing to this clause that young men enter the profession at so early an age that there is not sufficient time for that preliminary education, the want of which has been so generally lamented. It is true, indeed, that the Court of Examiners, perceiving the evils of their own regulations, have recommended the student to devote a part of the period allotted to the apprenticeship, to the attendance on lectures, &c.; but to my certain knowledge, in a great number of instances, this advice, from ignorance or other causes, is not followed. Repeated cases have been stated to me of young men having been occupied during the whole five years in the mere business of dispensing.

This is a most intolerable grievance, a vast injury to the interests of science and the well being of society. If anywhere time should not be mispent, it is in the medical studies; if by any one abilities should not be wasted, it is by the medical student. In trades, or other professions, the forfeit of ignorance or incompetency is money; in medicine, LIVES! Mr. Grainger continues:

> The apprenticeship clause is not only objectionable, for the reasons just stated, but it inflicts, as it appears to me, another and a more serious injustice upon the student, from which, it is to be hoped, he will be speedily relieved. The Court of Examiners by extending the period of attendance upon lectures and hospital practice to three winters and two summers, without previously obtaining from the legislature a repeal of the apprenticeship clause, have virtually, in a great number of instances, compelled the pupil to be engaged eight years in the profession before he could obtain the licence to practice. Now, when it is considered that four years is the longest period of study required in the most celebrated universities in Europe preparatory to taking the degree of doctor of medicine, the injustice of compelling the English student to devote twice that time in order to become a mere licentiate of a City company, is rendered conspicuous. When such a demand is made on the time and purse of a student, he has a just claim to the distinction which a degree would confer; and that such distinctions are eagerly sought after, is proved by the large number of young men who seek to acquire the diploma of the University of London. Last year as many as eighty students presented themselves for examination, and as the degree confers no legal title as to practice, it is clear, what my individual experience confirms, that the main incucement was the honour of belonging to a liberal and learned body. I know of no circumstance more honourable to our profession than this fact, which in itself speaks volumes as to the want of a Faculty of Medicine in this metropolis. As it is, there is at present every thing to discourage the noble aspirations after academic honours which clearly actuate a large number of the rising members of our profession; so that instead of finding the fostering care of a liberal institution to cheer him onward in the toilsome path by which alone scientific distinction is to be attained, *the English student must make his way under every discouragement, and not only have his attention distracted by preparing for two or three separate examinations, but must incur an extra payment, which always presses hard on his limited resources, and but too often acts as an insurmountable barrier to the attainment of the honourable and legitimate object of his ambition.*

Mr. Grainger adds, that this portion of the question of Medical Reform has not had sufficient attention paid to it. We entirely believe this, and the reason is this:—that medical men naturally think more of the grievances actually pressing on them, than those they have left behind them. The evils here exposed, though—thanks to the Medical Times—not for the first time, are the evils of medical students; and as these seem little disposed to ask for a remedy, we must await one, we suppose, in the wisdom of some clear-sighted and bold statesman, who will one day, it is to be hoped, place the whole polity of medicine on a basis of just, enlightened, and enlarged principles.

On the principles of Medical Government, which now obtain we have the following judicious remarks:—

> The experience of the few last years has shown that a very general and growing feeling of dissatisfaction exists in the profession respecting the manner in which the Colleges of Physicians and Surgeons have exercised their powers; and when we recollect that the great body of members have been and continue to be, pertinaciously excluded from all participation, both in the honours of the profession and the management of its affairs, it requires but little insight into the springs of human action to perceive that so long as a system which is thus repugnant to every feeling of self-respect is persisted in, there never can be, and, what is more,

there never ought to be, a cessation from every fair and legitimate means of opposition. Some persons may indeed consider these questions as unworthy the notice of scientific men; but we do not find that in other professions there is any indifference to such matters; the titles, dignities, and power, attached to them, being considered as fair and honourable objects of ambition.

In the case of the College of Surgeons there is an additional and most just cause of complaint, that the ground of disqualification is made to infer a positive inferiority on the part of those excluded; the vast majority of English practitioners being represented to the public as forming a lower grade of the profession. In the scheme of reform lately brought forward by the Council of the College of Surgeons it is understood that the same principle, which has hitherto been acted on by that body, was still recognized. Assuming this to be the case, it may be desirable to pause for a moment, and inquire what that principle is, which is thus so tenaciously retained. It is, as far as I understand, this—that the practice of medicine (as contra-distinguished from that of surgery) or of midwifery, disqualifies the individual so practising from all participation, even the most insignificant, in the honours or management of the affairs of the College. Now, gentlemen, I do not hesitate to say that no proposition could be conceived more injurious to the real interest of surgical science, than this attempt to perpetuate that distinction between medicine and surgery, which the unanimous voice of the profession has declared to be equally detrimental to the interests of both.

On the Divisions in Medicine Mr. Grainger observes:

It is the highest glory of modern surgery, that, by medical treatment, the necessity of operations has been obviated in a vast number of cases in which formerly the only hope of relief was in a painful mutilation; and all those who are anxious to alleviate the sufferings of our race would assuredly exert their power to encourage the practitioner of surgery to persevere in the same direction; least of all would they wish to see a retrograde movement, sanctioned by the authorities that be, towards the principles of those dark ages when medicine and surgery were divided between the monks and their barbers. At a time when all classes of medical men are, from conviction, agreed that there should be an uniform education for the surgeon and the physician, it is apparent that a plan which would disfranchise the great body of practitioners, and place the elective power in the hands of about two hundred of what are called pure surgeons, would only tend to perpetuate those dissensions in the profession, which are, I believe, entirely attributable to misgovernment.

In the next remark we quote, our agreement is not quite so complete. We, of course, no more hope to suppress all quackery by Act of Parliament, than all thievery; but we think much more might be done than Mr. Grainger imagines. We gave our plan in Vol. 6, which is the one (expanded and more complete) which the essayist's "esteemed friend" appears to support. If Dr. Hodgkin claims priority in advancing the scheme, we should be happy to hear his reasons, and give him the credit he deserves. But to the quotation:

To expect, by any legislative enactment, entirely to suppress quackery, is, I believe, a vain anticipation; so long as there are knaves and fools in the world, will there be professions of cure by ignorant pretenders. Indeed, when we consider how numerous is still the class of incurable diseases, and the occasional success which attends bold and empirical practice, however much we may lament the fact, we can scarcely be surprised that, when science can hold out no hope of relief the sufferer should sometimes catch at the confident promises of the undaunted quack. Knowing the strong feelings of the profession on this subject, I am diffident as to the correctness of my own judgment, but I certainly agree with those who, like my esteemed friend, Dr. Hodgkin, think that all that can be effected by legal enactment is, in the first place, to prevent the empiric assuming any title which he has not really obtained, so that he shall be compelled to write himself down a quack; and, secondly, he should be punished as for a misdemeanor, whenever his ignorance leads him into injurious mistakes, either of commission or omission. At the present time, however, no attempt whatever seems to be made to repress illegal practice; so that the empiric has a clear field before him. The only body which pretends to interfere is the Apothecaries' Company; and they, of late, appear to have abandoned this part of their duty as a hopeless affair; so that, unless some speedy and effectual change be introduced, there is great reason to fear that we shall lapse again into the state of the profession prior to the Act of 1815.

Mr. Grainger concludes his essay with hints on the necessity of examining druggists on the possibility of preserving the present College, in combination with the institution of One Faculty, and the very great importance of having honorary distinctions, as rewards for high scientific attainments. *We* conclude with the expression of our agreement in his opinions, and our respect for the able and lucid manner in which he has propounded them.

IMPORTATION OF FOREIGN LEECHES INTO ENGLAND.

(For the 'Medical Times.')

It is not generally known, that the leech trade is one of very great extent in this country, and few people are aware from whence this most useful amphibious animal is procured to supply the great demand that is made for it by private patients, as well as the public medical institutions that abound in this metropolis, and throughout Great Britain. In former years Lincolnshire, Yorkshire, and other fenny counties were able to supply the demand; but since the letting of blood by means of the lancet has been partially exchanged for the more efficacious application of the leech to the injured parts, they have been entirely exhausted. At the conclusion of the peace with France, in 1815, several dealers and speculators visited Paris, where they found leeches were easily to be obtained, and at a moderate price. The herbalists and apothecaries who supplied the hospitals, used then to purchase them in small quantities from the conductors of the Diligences coming from Niort, Tours, Orleans, St. Quentin, and other parts of the interior, not as an article of commerce, but only sufficiently to meet their demands. The arrival of Englishmen in the French capital soon excited their suspicions *that money was to be made*; and the conductors were soon on the *qui vive*, that they might make a good market with John Bull. At that time they charged only 10 or 12 francs per thousand, leaving themselves a good profit, as they were able to procure them from the peasantry at 5 or 6 francs. There are various species of leech—the grey or *sangsues grises*, commonly called the speckled; the green, and the black. The first was the only one much in use, being the same species as that formerly caught in England, although the green are equally as good; but the bite being more acute than the speckled, there was a prejudice against them. The black or horse leech was strongly depreciated by medical men as it is considered rather venomous, and sure to cause inflammation: that species is never used either in England or France. The demand from 1815 to 1823 for the London market was, on an average, annually from 8,000,000 to 10,000,000. This increased call soon made the French conductors and dealers turn the leech into an important article of commerce. From 15 francs they gradually rose to 25, 30, 40, 50, 100, and, at last, by their becoming exhausted throughout the whole country, to 200 francs. The Departments that, in 1815, were so abundant in leeches, are now dried up, and the French themselves are obliged to import them from other countries, so as to meet the demand for their own consumption. The great cause of this annihilation of the species, is the over-eagerness of the fishermen to take them, whereby millions were destroyed before they came to a state of puberty, being only *cocons* or spawn. Such has been the profit in the leech business that many of the Paris conductors and petty apothecaries, who had but a few hundred francs, are now independent men, and extensive *propriétaires*, worth £20,000 to £30,000 in funded and landed property. The deficiency in the supply of the leech made the London dealers turn their attention to Hamburgh, where it was found a great traffic in this useful creature was carried on to a very great extent by the Jews: it is, therefore, from that commercial city that the English market is now supplied through the expeditious communication by steam. The Hamburgh merchants procure them at a great expense (as the mortality is very considerable), from Hungary, Poland, Walachia, and the borders of Turkey; but it is expected that the species will, in a few years hence, be entirely exhausted throughout Europe. They are caught in Spain, Portugal, Switzerland, and Italy, but of the green species only, and of so very sickly a constitution, that they will not support the fatigue of a journey to any distance, although they are well packed in wet canvass bags filled with moistened moss. Such is the scarcity of the speckled leech, that it is with difficulty they are now procured; and although there has been for years a prejudice against the green, they are the only species that can now be obtained, and that at an enormous price, being sold in the London market at £8 per thousand, when they formerly could be purchased for 10 and 12s. This high price, added to the scarcity, has caused a most astonishing falling off in the demand, and, on an average, the annual importation from Hamburgh and Paris is not more than 3,000,000 to 4,000,000—as the hospitals and other institutions are only enabled to use them but in cases of the greatest necessity, where bleeding by the lancet would not be so efficacious. Nothing can be of more general use than the leech in a surgical point of view, as it can be applied with the greatest safety to the parts affected, and it is deeply to be lamented that it is so near becoming extinct. The mode of taking the leech used to give employment to thousands of men, women, and children, who entered with their bare legs into the gentle running streams, and disturbing the water with a stick, these blood-suckers soon attached themselves to their bleeding legs, when they were instantly placed into jars. Many attempts have been made to propagate them in *reservoirs*, but without effect, as they will not breed except in marshy grounds and undisturbed running waters. The mortality among the peasantry who are engaged in the leech fishery is very great; not so much from the constant loss of blood, but the effects of exposure in the unhealthy swamps, thereby causing agues and premature death.

EXTRAORDINARY CASE OF CLAIRVOYANCE.

Sir,—The subject of this letter is Madmoiselle Virginie, a somnambulist of Monsieur Ricard's. The first time I saw her was at a *seance* in M. Ricard's house, at which there were about fifty people; I was accompanied by Colonel Kent Murray. During the evening I was put *en rapport* with her, and asked her to describe the person I was then thinking of. I gave no name, nor did I even state the country in which the person was. To my astonishment she began her description with some humour. She gave me the exact portrait of the lady, as well as her character, moral and physical. In points the most minute she was quite correct. Colonel Murray was then put *en rapport* with her, and she did the same thing by him, describing a lady whose name he never mentioned. The picture of the lady's person was perfect, and equally so her character, even to the motions of the body. When we left the room we did so in amazement, at the way we had heard our thoughts read, though, as I shall show bye and bye, there is something more in it than mere

reading of thoughts. It seems as if sometimes she can get *en rapport* through your thoughts, with the persons themselves of whom you think, else how can she tell things of them, of which you yourself are quite ignorant, and this it will appear hereafter, she can do. The next experiments that took place, in which I played a part, and I answer for none others, though I have seen plenty, were when the other day at my request, M. Ricard gave me a private *seance* with Virginie. I took with me Lieutenant Colonel C. and his lady, Major C. S. and his lady, and Captain Robt. Jump. The first experiments we made were as to the power of discovering disease, without any previous knowledge. Mrs. C. S. being an invalid, was first put *en rapport* with her. She described her malady correctly, but did not lay stress enough on the rheumatic pains she suffered from. Colonel C——, whose disease I was quite ignorant of, was then put *en rapport* with her, but she soon enlightened me on the subject. Her description was, he acknowledged correct, though he is no friend to the science, but he cannot deny it, having seen too much of it in his own family. We then left the subject of discovering disease, of which nambulists that they are possessed, to go to "communication of thought," and "view at distance," but we were well convinced by her and other sombefore I proceed with my narrative, I will remark that I cannot discover how far the perception of disease is connected with mere communication of thought. Thus, if I place a sick person *en rapport* with a somnambulist, and the somnambulist discovers the disease, what proof have I, that the somnambulist does more than tell that person their own opinion of what is their own disease. That community of sensation, which I have proved to myself they often possess, may assist them, I have no doubt, but I have as yet no proof they can see the vital organs as they say they can. I have as yet not seen any description or discovery of disease, made or given by a somnambulist, in which they mentioned anything but what they might learn from having community of thought and sensation with the person with whom they are *en rapport*. Still I will deny nothing, though, till I see it often, I am not bound to believe. Let us now return to Madlle. Virginie. Mrs. C. S. being placed *en rapport*, asked her to "see the person she was thinking of." Virginie consented to try and only asked if the person were man or woman; and on being told "a man," she said, after a moment's pause, "I see him. He is in London. Tall; open chested; *beau garcon*; not old, rather young; high forehead; hair long and brown; fine eyes, colour blue, eyes are full; large nose, and large at the bottom; large mouth; smile pleasing; large chin; skin fresh, but not red; fine teeth, but *two of the upper single teeth one on each side spotted*; neither beard, moustache, nor whisker." She said "he once had a few hairs on his chin, but they grew so scanty that he cut them off. He draws. He does not amuse himself. He invents. He has *plans* before him. He communicates his thoughts to an old man, who has much self esteem; is not his true friend, but pretends to be so, to get or learn what he can from him without acknowledging the obligation (*a brain picker.*) The old man has grey hair, and the forehead, or head, slopes backward; he is wrinkled; bad mouth, and a *dirty one*; large cheek bones; neither fat nor thin. The young man is, in fact, quite tired of the old one, for he knows him now. The young one has some family annoyances. He studies much; &c. &c." Mrs. C. S. declared the description perfect, but she did not believe about the spotted teeth,—at least, she had never seen them; and Col. C. S. said his eyes were brown, not blue—though Mrs. C. S. differed with him. About the old man they never heard or knew of such a person.—I then asked who the gentleman was, Virginie had described, for I was quite ignorant. I was told his name, and also that he was an architect, which quite explained the "plans," &c., Virginie talked of. The *seance* ended, and Mrs. C. S. wrote off that evening to the gentleman in London to ask about the teeth, the eyes, and the old man. We have received his answer, and I send you extracts from his letter:—"I believe the description of disposition and character to be true." "Family troubles I *have* at this time requiring much attention. Personally her sketch is correct, save the blue eyes and breadth of chest." "There are two spots on teeth on the upper jaw; and, speaking with a Frenchwoman's notions of hair on the face, she is right in saying I have none, and when I *wished* it would grow, it came too *stingily*." "The history and portrait of the old man is, to the *very letter*, PERFECT"—"it is *singularly* correct"—"I have long known him as a 'brain picker'"—"he is famed for self esteem, and I have thought him more a friend than I do now; in fact, I *am* tired of him: the sketch of his person is exact." "The somnambulist's statement that I indulge rarely in any amusement is very true." It now appears that Mademoiselle Virginie's description was quite correct, except as regards the eyes and breadth of chest. Mrs. C. S. thought they were blue, and Virginie, having communication of thought with her, was of the same opinion,—and after all, I believe, they are grey; as to the chest, although the gentleman may not be remarkable for great breadth of chest, I understand, there is no contraction,—nor is he positively the contrary. Besides, supposing she *had* committed a *great error* in the description of any particular part of him, surely if all the rest be correct, and there be no difficulty from her description to pick him out of a thousand, it could be of no matter whatever. I have confined myself merely to the facts of the case, as all speculation on the subject appears to me absurd, for it can be founded on nothing, till we have collected more facts to fill up the wanting links in the chain of "cause and effect." I will remark that in the case I have just given, there was something more than communication of thought between the somnambulist and the person *en rapport* with her, for Mrs. C. S. knew nothing of the old man, nor of the spotted teeth, nor of his affairs. It seemed as if the somnambulist got *en rapport* with the person thought of through the brain of the person upon whom the somnambulist was *en rapport* with. The beauty of this class of experiments is that there is no room for collusion. Let a sceptic be put *en rapport* with such a somnambulist, and get the description of any person he chooses, naming them only as "the person he thinks of." What can he say?—what room is there to be deceived? It appears to me there is none, and therefore it is true. Those who cannot lay dishonesty or deception to my account, kind and charitable people! say, or pretend to think, that I am the victim of some deception or collusion, got up to deceive me, without any one's getting anything by it. Such an idea is absurd, and I say to them, with Hamlet, "lay not such flattering unction to your soul." It is not our madness, but their prejudice that speaks. It is impossible that we can be deceived as to certain positive facts which we all agree to exist, which we see every day, and about which we have not the least interest to deceive others or ourselves. I will not defend myself and brethren from the charge of roguery, for such an absurd charge has never been made against us *as a body*, even by the most sceptical, nor will I even defend us from the charge of being fools, for even that has never been laid to our door, for it is well known, (I say it without bashfulness) that mesmerisers generally are well read, scientific men, and count now, and have always counted amongst their number, men of the highest talent, intellect, scientific research, and scientific authority. What then is the charge against us? Why the ignorant, the idle in investigation, and such men as those who condemned innoculation as unholy, and Galileo to the inquisition, say, "We are visionaries." Do they know the meaning of the word, or is it in their mouths only a term of abuse? A visionary is he whose belief is founded on his feelings, not on his reason or judgment. A madman *feels* himself a being, and therefore *believes* himself one, for his *feelings* are stronger than his intellectual faculties, and that man is a "visionary." Now, do mesmerisers arrive at their conviction by feeling or reason? Clearly, not by the former; for speak to any mesmeriser of the present day, or read the history of those gone by, and you will see that at first all the feelings were against it, from the *apparent* inefficiency of the cause to produce such effects. I think no person ever believed in mesmerism without having experienced a hard struggle between his feelings (alias, prejudices) and his reason. If his reason be strongest, so as to enable him to judge of the *nature* and weight of evidence, he believes,—and, if the feelings be strongest, he cannot believe. Ask a visionary, why he believes so and so, and he can give you *no chain of evidence, unbroken*, to support his belief, but gives you words and sentences which have no meaning, and which have in them no chain of positive evidence of the thing to be proved. Ask a mesmeriser why he believes, and he will tell you that he sees, daily, certain *positive facts*, which, for want of a better name, he calls "Mesmerism." He offers to prove these facts—and to show them—and *does show them*—yet he is called a "visionary." Were a mesmeriser to stick up a dogma to account for them, and his chain of positive evidence to be incomplete, then he would deserve the name of "visionary;" and that name is well deserved by many French authors. When I use the word, "Mesmerism," I mean only certain facts called "mesmeric," and to which facts, all mesmerisers agree. Doubtless, there are many things given to us as such, by a single author here and there, which are false—or rather, I should say, errors, for where I can discover no gain to be got by deception, it is more probable that the author was mistaken, than that he uttered what he knew to be false. There are plenty of points in mesmerism which I do not believe one word of, and shall not, till they are as much to me of every-day occurrence as the facts I have already attested. Before I conclude, I will be bold enough to give a piece of advice to all mesmerisers. I have had a good deal to do with sceptics, and some very few I have failed to convince. Perhaps, I wound their combativeness by my desire to convince them; so I advise mesmerisers never to shew any anxiety about it.—Secondly, Before ever they allow a sceptic to see any of their experiments, ask them what evidence will convince them? Let them name the experiment, and settle with the mesmeriser, beforehand, how it is to be conducted. This will save great trouble and loss of time, for you will at once discover those who are to be convinced from those who are not.

The following is the sort of conversation I once held with a sceptic:—

Q. Will it convince you that the patient is in an unusual state, if I apply a flame of fire all down his thigh, and he shews no sign of feeling?

A. No. Some men will bear anything.

Q. I deny it; but, if he breathes pure ammonia while you hold his mouth, and see or feel his lungs expand, and he gives no signs of feeling, only increased secretion of water from the eyes, caused by the stimulating, though unfelt, effects of the ammonia on the membrane?

A. Practice, Sir, practice!

Q. Shall I make him deaf, or hear, at a private signal from you?—or, shall I give him any mental order you choose to write and give me, and make him do it?—or, shall he detect a piece of money I have touched, out of a thousand?—or, shall he read with a bandage over his eyes?

A. No, no,—for though you may do it, I can't tell how it's done; it won't prove there was no trick in it, though I can't find it out.

Q. What, then, will convince you?

A. Nothing.

Such men speak the truth—and nothing will convince them.

Your obedient servant,

WM. MACPHERSON ADAMS.

10, Rue Mont-Thabor, Paris.

[We know from good authority, that similar matters occuring in the same locality, are exciting the amazement, and occupying the attention of some of the most illustrious persons in the realm. When we mention that Col. Gurwood, the editor of the duke's dispatches, thoroughly believes (as he says, from recent positive personal evidence) in marvels as startl'ng, we may add as incredible as those above narrated, our readers will surmise some of the high quarters in which mesmerism is likely to be exciting interest. A case of amputation performed during mesmeric sleep, is accepted, and is to be read at the Medico Chirurgical Society, on Tuesday next. We shall notice the paper in our next.—Editor.]

DR. HASTINGS' EXPLANATION.

To the Editor of the 'Medical Times.'

SIR,—I beg to inform you, that I received a similar letter to the one you have published in the MEDICAL TIMES of October 29th, from Mr. Guthrie, as President of the College of Surgeons, and that I read it to the Provincial Medical and Surgical Association at their anniversary meeting, held at Exeter in August last.

I am, SIR,
Your obedient Servant,
CHARLES HASTINGS.

Worcester, Nov. 12th, 1842.

EFFECT OF MATERNAL IMAGINATION ON THE FOETUS.

To the Editor of the 'MEDICAL TIMES.'

SIR, — The influence upon the fœtus, of certain mental emotions occurring in the mother, being a disputed question in physiology, and one of some interest and importance, I have thought that the following cases (for the veracity of which I can vouch) might not be unacceptable to your readers.

About a year ago, one of my dispensary patients shewed me her infant, which presented on the left upper extremity a mere stump, of about two inches in length, beyond the elbow joint, terminated by a puckering of the integuments on which were situated five minute bodies resembling the tips of very small fingers: the child was otherwise perfectly formed. The history of the case is as follows:

Eight months before the birth of the child, the mother, walking with her sister (from whom I have collected the particulars), met with a beggar who, in order to excite compassion, exhibited an amputated stump on his left arm. The woman immediately expressed a sense of disgust and horror, and observed that, if she had been then pregnant, she should expect that her child would be born similiarly maimed. The sequel has proved that she was then pregnant, though she did not apprehend it, and that the fears of the result were too well grounded.

Her sister was present at her labour; and on receiving the infant, and discovering its deformity, experienced a thrill of disgust and sorrow, from which she did not recover until a few days after, when I was called to attend her for abortion, she not having previously suspected that she was pregnant.

A few days ago I was called to attend, in her second labour, an intelligent, respectable young woman, the wife of a plumber residing in Hornsey-road, opposite to the first-mentioned woman. The child, which is otherwise perfect, presents a deformity precisely resembling that above described, with the exception of two imitations of finger ends instead of five, as in the former instance. I have collected the history of this case from the sister-in-law, the husband, and herself. About eight months since, she was subjected to exactly the same causes as those I have related in the other case; she also did not suppose herself to be then pregnant, but expressed the same extreme sense of aversion, and her fear that "if she had been *in the family way*" the infant would be similarly maimed. The sequel of this case like the former, proves her fears to have had their effect.

In both these instances the same dread of the result had been frequently expressed during the period of gestation; and I have reason to think, though, of course, I cannot prove it to my satisfaction, that the same individual vagrant was the cause of alarm to each.

Popular opinion is prone to attribute all monstrosities to the operation of mental influence; and it is not without reason that the medical profession look with distrust upon narratives of this nature; but the cases I have related admit of no other explanation. They are not given without a rigid scrutinizing examination of the histories related by the parties concerned.

It is not because we cannot, scalpel in hand, detect the channel of communication, that the existence of such is disproved—neither is it by ridicule without examination, that the truth will be discovered. On this as on every other undecided point, facts alone, accurately collected, will show on which side truth is to be found; and I conceive, that the cases I have related, do go far to prove—1st, the susceptibility of the fœtus to have its developement interfered with by violent mental emotions taking place in the mother; and, 2dly, that such interference can only occur in the early periods of pregnancy.

The case of abortion I have related merely on account of the relationship between the women, not in illustration of the power of mental emotion to produce miscarriage, as no doubt exists on this point.

I am, SIR,
Your obedient Servant,
W. B. KESTEVEN,
Senior Surgeon of the Holloway and North Islington Dispensary.

Upper Holloway,
Nov. 12th, 1842.

ADDENBROOKE'S HOSPITAL, CAMBRIDGE. —We are requested to announce the election of three surgeons to this hospital—Mr. Lestourgeon, Mr. Hammond, and Mr. G. M. Humphry.

FOREIGN LIBRARY OF MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

[Exclusively compiled for the 'MEDICAL TIMES,' from French, Italian, and other Continental Periodicals.]

FRENCH.

DES GUIDI, *Moyens, &c.*—On the Homœopathic Treatment of Madness, 8vo.——BEAUVOISIN, *Du Cancer et de son Traitement*—On Cancer and its Treatment, being a Complete Exposition of Dr. Beauvoisin's Method, which excludes the use of all Cutting Instruments, 8vo.——DEBOUT, *Esquisse de la Phrénologie, &c.*—Outlines of Phrenology, and its applications popularly explained, 12mo. 2s.——GAULTHIER, L. P. AUG., *Examen Historique, &c.*—A Critical and Historical Inquiry of the new medical methods of treating Syphilis, 8vo. ——MALGAIGNE, J. F., *Manuel de Médicine Opératoire fondée sur l'Anatomie normale, &c.*—Manual of Operative Surgery, 12mo. 6s.—AURIES, *Mémoires sur les effets thérapeutiques du monesia*, 8vo.—Memoirs upon the Therapeutic Effects of, &c.——CHAILLY, M. J. R., et GODIER, *Précis de la Rachidiorthosie, nouvelle methode pour le redressement de la taille, &c.*—A New Method for the Treatment of Spinal Complaints, 8vo. —— *Encyclographie des Sciences Medicales. Aout*, August.—— DEMAUGEON, J. B., *Physiologie Intellectuelle ou l'Esprit de l'homme considere dans ses causes physiques et Morales, &c.*—Intellectual Physiology, or the Mind examined in its Moral and Physical Principles, 8s. —— PLATTNER, M. C. F., *Tableaux des Caracteres que presentent au chalumeau, des Alkalis, les Terres, et les Oxydes Metalliques, soit seuls, soit avec les Reactifs. Traduits de l'Allemand par Sobrero*, 4to. 2s. 6d. Tables of the effects produced by the Blowpipe upon Alkalis, Metallic Earths, &c.

⁎ The French works above announced, may be had through Dulau and Co., Soho Square.

PERISCOPE OF THE WEEK.

TARTAR ON THE TEETH.—M. La Baume ascertained, that washing the teeth with vinegar and a brush, will, in a few days, remove the tartar; thus obviating the necessity for filing or scraping them, which so often injures the enamel. He recommends the use of powdered charcoal and tincture of rhatany afterwards, which effectually (in his opinion) prevents its formation.

AGUE.—Vernal ague is more curable than autumnal. Dr. Seymour has never known quinine fail in curing the former; in the latter he has had resort to arsenic. It is a common mistake, on seeing a foul tongue at the commencement of this disease, to suppose that quinine is inadmissible until the digestive organs are set right. Dr. Seymour says, that the state of the tongue is produced by the fever, and that if you go on purging with the hopes of relief you will render the disease more difficult to cure; he therefore, recommends an emetic, and a purgative afterwards. It is necessary to continue the quinine after the paroxysms are stopped, as sometimes the first dose of aperient medicine will bring back the fit. He alludes to the power of emetics, in altering the periodicity of disease, and draws the attention to the sallow shrunken countenance produced on its continuance, by the determination to internal organs.

CLIMATE. The liver is more prone to disease in the warm than the cold climate, and the lungs in the cold than the warm—for this reason: increased action implies increased determination, and this again disposes to inflammatory action and congestion. But as variety of temperature causes variety in the energies of action in the liver and the lungs respectively, corresponding consequences supervene: and as the lungs are more engaged in *cold* climates, they are also more disposed to disease; while in warmer ones, the liver acting with increased energy, becomes also more susceptible, Phthisis and pneumonia are almost as frequent in hot as in cold climates.

ELECTROTYPE SEALS.—Hold the sealing-wax impression over the mouth of a Florence flask, having a small tube, from which the vapour of spirits of wine is proceeding, by the agency of a lighted candle below; black-lead powder is instantly applied by a camel hair brush; and lastly, a fine point of wood being nicely passed over it, it produces a burnished surface. When the copper seal is removed, touch the back with a soldering iron and pour on your lead or fusible alloy, so as to form a sufficient mass for a seal.

DYSENTERY.—The pathology of dysentery, is inflammation of the colon. There is in general, pain, with a desire to go to stool, and a feeling of a load in the bowels and griping pains; the patient goes to stool and perhaps passes only flatus; afterwards a thin glairy mucus, with, say bile, and afterwards blood, and lymph, as in the cases seen on the Gold Coast of Africa. The membrane sloughs, and there is a thin discharge; the blood is a symptom, not of ulceration, but of inflammation. In ulceration there is a discharge like green tea, and not bloody, except when an artery is involved. In this climate it is almost invariably curable; yielding to purgatives, as long as the patient feels the load in his bowels you may purge according to his strength. Helvetius recommends ipecacuanha, which for some time has been often employed in doses of gr. xv. ad. ℈j. When the inflammation runs very high, colomel must be used, and when it gripes, you must add opium. The ulceration after

dysentery is a slow chronic mortal disease. It is more chronic than the ulceration after fever; because, in the latter, the small intestines are affected, from whose surfaces a greater degree of lacteal absorption takes place, than from that of the larger intestines.

DISEASE OF THE HEART.—Dr. Macleod states that the action of the heart as excited by organic change, is not so perceptible to the patient as when only sympathetically influenced. This remark was made on a case where great pain attending disease of this organ, had been much relieved by the application of morphia ointment to a small blistered surface over the heart.

ŒNEMIA WITH CHLOROSIS.—Dr. Hamilton Roe recommends the use of ol. ricini. and ol. terebinth. *a a* ℥iij., at bed-time; and in most cases it is attended with beneficial results.

TALBOT'S CALOTYPE.—The paper is covered with *iodide of silver*, by washing it successively with nitrate of silver and iodide of potass; afterwards it is washed over with *gallo-nitrate of silver*,* the greater part of which is removed by immersion in water, but enough adheres to render the paper exceedingly sensitive to light. The paper is then dried, and placed in the camera obscura, and the image of a building or other object, is generally obtained in less than a minute. This image, however, is usually quite invisible, and the mode of rendering it visible (which is the most curious part of the calotype process) consists in washing it again with *gallo-nitrate of silver*, and then gently warming it—which generally causes the appearance of the picture, with great force and vivacity, in the space of a minute or less. The theory of the process remains at present unexplained. To fix the picture, it should first be washed with water—then lightly dried with blotting paper—and then washed with a solution of *bromide of potassium*, containing 100 grains of that salt dissolved in eight or ten ounces of water.

INDIAN PREVENTION OF DRY ROT.—At Yaynankhyvin, on the banks of the Irrawaddy, are the celebrated Petroleum Wells, which supply the kingdom of Burmah, and the adjacent countries as far south as Junk-Ceylon, with *lamp oil*. The priests, whose religious works are all written upon the leaf of the talipot-palm (*Corypha umbraculifera*,) smear the surface with this mineral oil, for the double purpose of filling the interstices with a dark matter which shall render the letters visible, and in order to protect them from the attacks of insects, and the ravages of time. I have seen such books of various ages, from fifty to one hundred and fifty years, whose antiquity could be verified without difficulty—their preservation having been attributed solely to the indestructible properties of the Petroleum, in which they had been soaked. Having mentioned these facts, it only remains for me to draw the attention of scientific persons to them, with the view of testing the qualities of Yaynan, as a *preventive to dry rot in timber*. The experiment may be tried without much expense, by saturating some planks with this liquid, and giving them a fair trial with others not so protected. There cannot be the same objection made to this mineral production as there is to arsenic or corrosive sublimate, inasmuch as the Yaynan is not only perfectly innoxious, but has rather an agreeable odour.

* The gallo-nitrate of silver is formed by simply mixing solutions of nitrate of silver, and gallic acid. The operation requires to be executed with great care and precision, but is not difficult in other respects.

MATERNAL IMPRESSIONS ON THE FŒTUS.—*Case* 1: Josephine Minnebol, says M. Guislain, of Gand, was a few weeks advanced in pregnancy; she was in good health; one of her acquaintance came to see her, wearing in her ears earrings, called in Flanders, "petites cloches," (little bells, from their shape.) These jewels caught the affections of Josephine—she admired them, coveted them—gazed upon them with eagerness. Forthwith she was beset with an ardent desire of possessing similar earrings. At the period of her confinement she brought into the world a healthy infant, offering the singular phenomenon of two appendages, an inch in length, and shaped like acorns, hanging by a pendicle to the antitragus of each ear. *Case* 2: M——, an advocate, went with his wife to visit a farmer, in whose house she saw a child having a supernumerary thumb. She had been pregnant a few days. Some time afterwards, she had a dream during the night, in which she saw this same infant, and this same double thumb;—she got up, and uttered a cry of alarm. After this, she was frequently occupied with the idea that her infant would be born deformed. At the eighth month she was delivered of a still-born child, which had a supernumerary thumb. *Case* 3: Dr.——, member of the Medical Society of Ghent, relates the following concerning his wife. His wife, who is not at all superstitious, was pregnant for the fourth time, and in the fourth month of her pregnancy, when, in the winter of 1832, she missed her footing, and fell at full length, first on her knees, and then upon her elbows; this caused her knees, thighs and elbows to be denuded of skin; she was immediately anxious for the fate of her infant, and she frequently made use of the expression to her husband—"Provided that our child does not suffer from it," Being continued at the usual period, she brought into the world a male child, with the knees, thighs and elbows presenting the appearance of torn flesh, denuded of skin. *Case* 4: A woman, in the fifth month of her pregnancy, was engaged in applying a certain number of leeches to the chest of a young man affected with pleurisy. Some time afterwards she brought into the world a healthy child, but presenting on the left side of its chest, marks analogous to leech-bites. It is confidently asserted, that there was a large red ecchymosed patch to be seen close by the former. Twenty-four leeches had been applied, and twenty-four spots were found upon the body of the infant. *Case* 5: A women of Ghent, during the course of her third pregnancy, conceived an insurmountable aversion for a person whom she often saw, and who had her hands bent back at the wrists. She was delivered of an eight months' child, which presented a complete doubling back of the hand upon the fore-arm. M. Guislain also treats of the influence which certain impressions of different animals, perceived by the mother, are able to transmit to the children, as well as of that which the character proper to each kind of animal exercises during incubation, upon the individuals confided to it. He brings forward the fact of a pregnant cat, which struggled with a terrier with crooked fore-legs. A short time afterwards she brought forth a kitten, the fore paws of which were crooked, and remained crooked like those of the terrier. Thus, a hen's egg, sat upon by a magpie, was productive of a game cock, surpassing every other animal of the same kind. Pigeons of a lofty flight covered by heavy birds, were no longer able to quit the earth; and *vice versa*, poulets produced from eggs sat upon by pigeons, have been observed to fly higher, and keep longer on the wing, than other birds of their kind.

CREOSOTE IN PHTHYSIS.—A female, aged 34, under Dr. Fraoz, of Konigsfeld, was affected with tubercular phthysis, and the emaciation of the patient, the colliquative sweats, the aphthæ, fetid expectoration, &c., showed that the disease was already in its last stage. The administration of creosote was then commenced, and after eight grammes of this substance had been given, the improvement obtained was such, that the patient was able to resume her operations. A result no less favorable was obtained with the same medicine administered to a peasant, aged 28, who laboured under phthysis. But, in three other similar cases, its employment was obliged to be abandoned, because under the influence of its action, the cough and all the hæmoptical symptoms were aggravated by it.

REMEDY FOR CERTAIN ALTERATIONS OF THE MILK IN NURSING WOMEN.—A nurse had the milk too clear and scanty; she did not feel it *rise*. The following means, employed by Dr. Chabrely, succeeded in two days correcting the bad quality of the milk, and in greatly increasing the quantity of that secretion:—℞ Magnesia, 10 grammes; powdered orange peel, 3 do.; white sugar, 65 do.; M. and F. S. A. a perfectly homogeneous powder. The nurse took, three times a day, in a cupful of a weak infusion of lime, properly sweetened, a teaspoonful of this mixture. Under the influence of this medicine, her appetite, previously bad, became excellent, and, owing to this circumstance and the direct effect of the medicine, her milk acquired in the space of two or three days all the qualities necessary for affording sufficient nourishment to the child. Madame Armand B. had galactorrhœa for three months, which wasted her. The child fell away. In this case, Dr. Chabrely had recourse to the following medicament:—℞ bicarbonate of soda, 4 grammes; powdered orange peel, 4 do.; white sugar, 80 do.; M. and F. S. A. a perfectly homogeneous powder. Madame Armand B. took, three times a day, a teaspoonful of this mixture in a cupful of a weak infusion of edulcorated *aya-pana*. Under the influence of this medicine, she entirely recovered her appetite, which had left her from the commencement of the galactorrhœa. Two such doses were sufficient to correct the milk and to suspend the incessant flowing. From this time, the lady was enabled to continue to suckle her child, to the great benefit of both, for, in a few days, they acquired their former plumpness.

ANTHRAKOKALI.—Dr. Polya states that he has employed anthrakokali with marked advantage in scrofula, chronic rheumatism, articular rheumatismal tumors, tophaceous arthritic concretions, and hydrarthrosis. Anthrakokali is prepared by mixing in an iron basin 160 parts of powdered coal, with 192 parts of a very concentrated and boiling solution of potassa causticised by lime. When the mixture is made, the vessel is removed from the fire. After removing it from the fire, continue to stir it until it is converted into a homogeneous black powder. He administers three or four times a day the dose of 0·19 grammes, mixed with 0·25 grammes of powdered liquorice. Many Parisian practitioners have tried the employment of this medicine, and among others, Dr. Gibert, who, at the *Hopital Saint Louis*, has prescribed in several cutaneous disorders. Its internal exhibition not having appeared to him very advantageous, this physician employed it under the form of a pommade according to the following formula:—anthrakokali, 1 gramme; lard, 30 do.; M. and F. S. A. a homogeneous pommade. It is applied morning and evening to the

diseased parts. Tried on 24 individuals affected with skin diseases, it cured many of them, and its employment in others was signalized by a manifest amelioration. The action of this medicine appeared resolutive, but less exciting than the preparations of iodine or ammonia.

Paralysis without Loss of Sensation.—W. H. G., Esq., æt. 36.—In 1836, Mr. G. had a phagedenic ulcer of the left leg, which got well after some months; but it again broke out in 1839, when he had also a large chronic ulcer on the posterior pharynx of some duration, but not of a syphilitic character. He had pains in the head, with very costive bowels, during the greater part of the year 1839; in January, 1840, epileptic attacks, with very slow pulse, now supervened; and in the spring following, Mr. G. had spasmodic contractions of the lower limbs, accompanied by a sense of weakness in the back; and latterly he lost the use of his legs, and ultimately the entire control over every muscle situated lower than the neck. During the last twelve months of the patient's life, the whole body was paralysed, excepting the head, neck, and diaphragm, by which breathing was entirely carried on, and not by the muscles of the chest. However, sensation remained, perfectly natural throughout the entire surface of the body; and towards the termination of the disease, the patient's feelings were even more acute than usual, and he could always tell, on the slightest touch of a bystander's finger, the exact spot to which it was applied. Severe spasmodic twitchings of the legs and arms were now more frequently noticed than before, and these were sometimes so violent as almost to throw the patient off his couch. The extremities were often very cold, but occasionally they felt also burning hot, with a sensation of excessive coldness in the epigastrium. The urine was drawn off by the catheter for many months, but latterly it passed involuntarily, as the fæces did likewise. All the symptoms continued unabated in violence to the last, and the patient died in July, 1842; but retaining his intellectual faculties perfect until the last. *Treatment.*—Medicine had very little influence in arresting the disease, although the treatment may have relieved the severity of some of the symptoms. The remedies consisted principally of purgatives, mercury, sarsaparilla, hydriodate of potassa, strichnia, and morphia to procure sleep or allay spasm. Other means were also used, but the treatment which appeared to produce the most benefit was active purging, and the tincture of cantharidis taken as a diuretic; at the same time that a copious discharge was kept up for many months consecutively from two large issues on the nape of the neck. *Autopsy.*—Nothing particular was found in the head, excepting that the arachnoid membrane over the pons varolii adhered to the parietal layer of that tissue, and about two ounces of serum were found in the ventricles; but there was no tumor or change of structure either in the brain or in the cerebellum. The thoracic and abdominal viscera were healthy, with the exception of the bladder, which was much contracted in size, and thickened in its coats, whilst the omentum, and some of the small intestines, adhered to its surface. On opening the spinal canal, the theca, corresponding to the three or four lower cervical vertebræ, was much distended; the arachnoid cavity was filled with lymph, and there were adhesions of the membranes to the chord, which appeared firmer at the anterior than at the posterior portion, and the parts were inseparable. The chord itself was longer than usual at this particular point, felt soft and pulpy to the touch, and on being divided it was found to be in an almost diffluent state, infiltrated with serum, but of a natural colour. For the extent of half an inch above this point the chord exhibited a dusky red colour, but there was no difference observable betwixt the two columns, both being alike softened and discoloured; the parts above and below being perfectly healthy, and of a natural appearance.

External application of Croton Oil.—M. Bouchardat recommends a plaister, used by Chomel at the Hotel Dieu; and which is thus prepared:—Four parts of diachylon plaister are melted at a very gentle heat, and while it is half liquid, one part of croton oil is mixed with it, and the mixture is then spread in a thick layer on calico. Pieces cut from this may be applied to the skin like ordinary sticking-plaister. They quickly produce an active irritation.

Death from the Bite of a Fly.—A tanner, aged 62, living at Saint Maurice, died in consequence of being bitten by a fly. This insect, which was of the most venomous kind, produced a malignant pustule. The face which was the part bitten, first swelled up; and afterwards the whole of the body.

Liquor Taraxaci.—The following is the formula: Dandelion roots, perfectly clean, *dried*, and sliced, 18 ounces. Infuse for 24 hours in a sufficient quantity of cold distilled water to cover them. Press and set aside, that the fecula may subside; decant and heat the clear liquor to 180 deg. F., so as to coagulate the albumen; filter the liquid whilst hot, and evaporate in a drying room, or by means of a current of warm air (a water or steam bath will not succeed so well), until the product shall weigh 14 ounces. To this must be added 4 ounces of rectified spirit. Should the roots not have been perfectly cleansed, the product must be digested with pure animal charcoal. If properly prepared, Liquor Taraxaci resembles in colour pale Sherry, and possesses the acrid taste of the fresh root in an eminent degree. The dose is from one to three fluid drachms.

Hemostatic Water of Monterossi.—M. Gibourt gives in the *Journal de Chimie Medicale*, the formula of the hemostatic or styptic water of Dr. Monterossi of Naples; it is said to be a most successful application in all kinds of hæmorrhage. Mentha piperita; memordica balsamina; teucrium marum; acorus calamus; origanum dictamus; *aa.* 250 grammes; nepeta cataria; mentha pulegium; rosmarinus officinalis; salvia officinalis; Diotis candidissima; eupatoria cannabinum; lanicula europea; achillea millefolium; erythrea centaurium; cupressus sempervirens; rhus coriaria; plantago major et lanceolata; urtica dioica; quercus robur; symphitum officinale; polygonum bistortum; tormentilla erecta; hæmatoxylum campechianum; pix nigra; boletus laricis; *aa.* 1000 grammes. These substances well pulverized are placed in a retort, and sprinkled with water. In the course of 18 hours, a fresh supply of liquid is to be added, and distilled slowly to two thirds of its quantity. The product is to be preserved in closely stoppered bottles. The liquid remaining in the retort may be filtered through paper and evaporated to the consistence of extract. This may either be dissolved in water, or in alcohol; it is, however, less soluble in the latter.

Officinal Iodide of Potassium usually contains, according to Woehler, iodate of potassa and carbonate of potassa, more especially that iodide which is furnished by manufacturers on the large scale. Herzog has shewn the composition of that prepared according to the Pharm. Borr. The salt of the Pharm. Hanov. frequently contains also iodate of potassa, since it is only completely reduced by the long-continued action of sulphuretted hydrogen. The best method is, by decomposing the iodide of iron with carbonate of potassa at a boiling temperature. The difficulty is, to hit the precise point of decomposition, so that neither iodide of iron nor carbonate of potassa may remain in excess. The latter fault is easily amended by the addition of hydriodic acid.

Poisoning by Snails.—A family of peasants living in the commune of Clermont, near Toulouse, fell a sacrifice to poisoning by snails. The physician who attended them, communicated the following details to the *Journal de Toulouse*.—From what I collected concerning the circumstance which preceded the disease, and those which accompanied it, and from the symptoms which I myself witnessed, I had no difficulty in recognising a case of poisoning like those occasioned by narcotico-acrid vegetables, such as belladonna, hyoscyamus, thorn-apple, &c. No doubt remained in my mind as to the cause of this terrible disease, as soon as I knew that the snails eaten had been collected in the bushes, called in French *redout*, but in the patois of the country *roudout* (*Coriaria myrtifolia.*) Every one knows that the leaves and young shoots are a poison to the domestic animals which browse on them, and that they kill them, after causing giddiness and a kind of epileptic attack; but a fact which is not known is, that the flesh of these animals may occasion the greatest danger, and even death itself. Symptoms like those which I have just witnessed, are rare; but it is common to see among our peasants indisposition caused by snails, which comes from their eating them as soon as they are gathered. The example of the ancient Romans should be followed, and these animals should not be brought to table until they have been kept six months or a year, feeding them on bran and wild thyme. This is the way also to make them fatter and more savory.

Mortality in England and Wales.—As compared with the average number of deaths in the same quarter of the four preceding years, 1838, 1839, 1840, and 1841, there is an increase in the past quarter of no fewer than 2,474 deaths, the average for those four years having been 36,595, while the deaths in the past quarter have been, as above stated, 39,069.

ROYAL COLLEGE OF SURGEONS LONDON.

List of gentlemen admitted members on Friday, November 11th, 1842:—

H. A. Arden, G. F. Hewson, H. Vidal, J. H. Kimbell, T. L. Hodson, G. Cole, A Adye, J. P. Bourne, W. Simpson.

MEDICAL NEWS.

Middlesex Hospital. — Mr. Herbert Mayo has resigned the surgeonship to this hospital, and Mr. Shaw the assistant surgeonship. The candidates for Mr. Mayo's place, are Mr. Shaw, Mr. De Morgan, and Mr. Erasmus Wilson.

The Pharmaceutical Society.—That we are not, says the Chemist, by many hundreds, the only parties dissatisfied with and disgusted at the conduct of those entrusted with the management of the Society's affairs, we can amply attest. We have too long conducted our journal to be in the dark in matters relating to

chemists and the conductors of the pharmaceutical farce. We know of the prevalence of the greatest distrust, and let next time of subscription tell how justly we have stated the general feeling. We certainly agree with them that the intended reduced subscription of one guinea per annum will be a much nearer approach to the real value of the transactions than the present tax. Can it be supposed,—is it probable,—that we should first suggest and advise the formation of a society, and then seek to injure or destroy it? Why have we withdrawn our support? Because its affairs are confided to jobbers and ignoramuses.

ADVERTISEMENTS.

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SUMMARY.

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

Delivered by C. J. B. WILLIAMS, M.D., F.R.S., Professor of the Practice of Medicine, and of Clinical Medicine, at University College.

Gentlemen,—The divisions of inflammation that I mentioned at the conclusion of my last lecture are entirely arbitrary. It is, however, useful to have some general terms by which to characterize the leading features of a disease, and as the terms acute or sthenic, and sub-acute or asthenic, indicate pretty clearly the nature of an inflammation, it is well to retain them. These words are descriptive of *intensity* rather than of *duration*, and therefore the epithet *chronic* is used to imply the length of time that an inflammation has continued, and generally speaking a chronic disease is also subacute, for an acute inflammation, could scarcely exist long enough to be called chronic, for it would either be deprived of its acuteness by active treatment, or it would prove fatal, or assume other characters besides those of simple inflammation. The products and terminations of acute and chronic inflammation differ considerably. We shall now turn our attention to some of the terminations of inflammatory action. The first of these to be noticed, is *resolution*, by which is meant a cessation of the inflammation and its *effects*. This is properly a *termination*, because all is at an end. It is resolved, by a cessation of the increased action of the arteries,—that is to say, it ceases to be true inflammation. This resolution may be effected by blood-letting, which diminishes the force of the circulation, and, by removing the element determination, reduces the inflammation to *congestion*. An example of this is seen after active inflammation in the eye where the vessels remain congested, and only require the application of astringents in order to put an end to the whole process. Sometimes, however, the congestion is removed *with* the determination, the tone of the capillaries being speedily restored. Even slight *inflammations* of mucous membranes may be removed by stimulants and this is effected by the removal of the congestion. The resolution is sometimes accompanied by effusions or hæmorrhages. Slight or subacute inflammation may go on for a considerable time, and yet be afterwards resolved. Sometimes it may be resolved in one part, and then attack an adjoining part, as though there was something moveable in it, and could have its effects transferred from one set of vessels to another, as in erysipelas; this is supposed to arise from continuity of texture: so also in catarrhal inflammations and affections generally of the air passages, there is a great tendency to spreading. The same is the case in the urinary passages; for instance, inflammation commencing in one kidney may proceed down the ureter to the bladder, and thence along the opposite ureter to the other kidney. In inflammation of serous membranes, there is also a proneness to extension. In the mucous membrane of the *intestines* inflammation is generally more circumscribed. Again, we find that inflammation is transferred under other circumstances than can be accounted for on the supposition of *continuity*; thus it may be transferred from the costal to the pulmonary pleura, and the communication is said to arise from *contiguity* of texture. This may have nothing to do with *resolution*, for *both* membranes may remain inflamed together. It is often difficult to say *how* the inflammation is transferred. Again, inflammation sometimes ceases by *metastasis*; this is particularly the case in fibrous membranes. Thus in rheumatism, there may be effusion into a joint which will suddenly disappear and present itself in another joint, and yet no trace whatever remain in the previous seat. This transference must depend upon a *morbific matter*, which is carried about in the circulation, and deposited in various parts. A similar phenomenon is seen in the transference of inflammation from the parotid gland to the testicle. In females, the breasts are affected under similar circumstances. This alternation would seem to arise from analogy in the structure of the different parts. There is a mistake not unfrequently made with regard to the occurrence of Pericarditis as a result of *metastasis* in cases of rheumatism. Now, in the majority of instances, there is no true *metastasis* at all, but simply a *coexistence* of inflammation in the pericardium and other parts. If the inflammation ceased entirely in its first seat, and then attacked the brain or heart alone, it would constitute genuine metastasis, but you will find this rather a rare occurrence.

Resolution, when complete, is marked by the subsidence of all the inflammatory symptoms, viz., heat, redness, swelling, &c.; but there is sometimes, and, indeed not uncommonly a continuation of the irritation of the nerves of the part, especially if the subject be of the nervous temperament—the nerves thus appear to retain the irritation after the vessels have entirely recovered their previous condition. Another point of very considerable importance in connection with the resolution of inflammation, is the constitutional accompaniment that is generally observed to present itself, viz., the occurrence of what is termed a "*critical discharge*." That there commonly is some discharge attending resolution is a fact familiar to every careful clinical observer.—The nature of the discharge may vary—sometimes it consists of perspiration—sometimes it is a diarrhœa, the evacuations containing matters of a greenish or dark brown appearance. Sometimes hæmorrhage is observed to happen at the time of resolution, but the most frequent of any is the deposition in the urine of what is known as lateritious sediment, consisting of the lithate and purpurate of ammonia. The question will here naturally suggest itself to you, whether these discharges, for instance, the deposits found in the urine, are the *cause* of the resolution, or merely the *effects*, and indications that the change has occurred? There is no doubt that during fever the secretions are diminished, the capillaries become constringed, and hence the urine is scanty and high-coloured, and I think it is reasonable to suppose that the discharge just alluded to may simply be the throwing out from the system of the accumulated matters—in fact, a resumption of function. These augmented secretions are, as I told you, called "critical." They indicate the state of the disease, and being satisfactory evidences should always be regarded with attention.

A *second termination* of inflammation generally enumerated, is *effusion*. Now, it will be obvious to you that effusion is, strictly speaking, only a *product* of inflammation, and not necessarily a *termination*; for, although in many cases, the occurrence of effusion *does* relieve the blood-vessels, and the inflammatory action ceases, yet if the determination and congestion *do* continue, the inflammation may, notwithstanding the effusion, still go on. We have an example of inflammation terminating with effusion in the case of *pleurisy*, where lymph being effused, and becoming organized, and forming loose and harmless adhesions, the cure may be perfect. But we shall find that, in most instances, the product itself that is effused gives rise to unquestionable mischief. Suppose, as an illustration of this, that, in a case of pericarditis, a large quantity of lymph is thrown out, which becomes organized, and afterwards contracts, is it not clear that, although no inflammation may continue, the function of the heart is in almost certain danger of being seriously impaired by the shackling of the contracted product? So, again, if the endocardium is the seat of inflammation, the action of the valves of the heart is sure to be more or less impaired. The same principle is equally applicable to the lungs, and also to the intestines; in the case of the latter, the lymph, by the formation of adhesions, impedes the peristaltic action. The injury done is likely, of course, to be yet more serious if, in addition to the effusion of the lymph, the inflammation should continue. Now, there are, as I intimated in a former lecture, several varieties of lymph. If not absorbed, it must either be organized, or remain as a foreign body. In acute inflammations in otherwise healthy subjects, the lymph may be organized so as to differ little from the tissues with which it is in contact, and may be productive of very little inconvenience. When inflammation is less acute, and especially if the patient does not possess a strong constitution, the lymph that is thrown out will be of a *lower* character, and differ materially from the tissue in which it is produced; it [illegible] have a tendency to *contract* and become rigid; [illegible] also less vascular than that before-mentioned, a[illegible] interferes sometimes to a very remarkable degree with the mobility, and consequently with the functions, of the part. The lymph deposited upon serous membranes sometimes becomes exceedingly hard and rigid: it may assume quite a *fibro*-cellular consistence, and, indeed, so great is the induration in some cases, that it appears even fibro-*cartilaginous*. Sometimes the deposition presents a granular form,—this is particularly observed on the peritoneum; such collections may be called tubercular secretions. The lungs exhibit similar products of consolidation, which constitute permanent obstructions. Contractile lymph is found also to occur in the liver, so that, occasionally, the whole organ may become so completely shrunk as to have its functions almost entirely interrupted. Inflammation in fibrous membranes produces *thickening*—this result is seen frequently in the valves of the heart. So, also, on the fibrous tissue investing bones, lymph is first deposited, and afterwards osseous matter; hence arise nodes, &c.

Effusion seems to have a tendency to *lower* the character of inflammation, for it becomes less acute after effusion has taken place; this is shewn by the fact of the matter subsequently thrown out presenting a curdy appearance, proving the lymph to be degenerating in its quality. This degradation is well seen in cases of chronic peritonitis. These lower products, being little capable of organization, are much more mischievous than those of a higher character. We have an instance of a low secretion in empyema, which consists of a mixture of curdy lymph and serum.

On *mucous* surfaces the matter thrown out does not, as I before impressed upon you, cause *adhesions*. The effusion is of a mixed nature, and looks thick and opaque. Besides what is poured *out* upon the surface, some is *retained* within the pores, and occasions thickening and stricture;—thus, in the intestines, bladder, urethra, &c., we find strictures produced by inflammation. This

thickening occurs principally in the *sub*-mucous tissue.

The *symptoms*, or, more correctly, the *signs*, that attend the occurrence of effusion, are *externally*, increased *swelling* and hardness. If the effusion is *internal*, there are also evidences frequently to be obtained: thus, if it happen in a part that can be reached by manipulation, swelling will be discovered, and dulness on percussion will be produced. Signs of displacement of adjoining organs may also be present; as well as obstructions arising from the pressure. The fever may continue nearly as before the effusion occurred, although, *generally*, the strength of the pulse, and the other constitutional symptoms, become somewhat diminished—but the real functional disturbance is often greatly augmented; for example, in the lungs, *after* effusion has taken place, the dyspnœa is almost inevitably aggravated. We may, perhaps, say, that *pain* is usually lessened when effusion occurs, although in some cases it is undoubtedly increased, as where the matter effused is situated under tense membranes.

Effusion of *pus* is much more a termination of inflammation than the effusion of lymph, for pus is developed at the expense of the vessels, and considerably relieves. In abscess, where the inflamed part becomes destroyed, and pus is thrown out, which, by pressure, causes absorption of tissue, we see how the inflammation is resolved—many of the inflamed vessels are removed altogether. The mucous membrane lining the urethra is often greatly relieved by the secretion of pus. When suppuration is established, constitutional weakness is generally substituted for the *excitement* that previously existed. When the pus is collected in an abscess, as in parenchymata, part of the tissue is destroyed, and its place occupied by the purulent secretion. At the commencement of suppuration, there is usually shivering, or, as it is called, a rigor—there are also other symptoms that commonly characterize the formation of pus, with which, I presume, you must be acquainted.

Parts *around* an abscess may still be the seat of inflammatory action, because the collection acts as a foreign body. Most relief is experienced by suppuration when it is circumscribed: the matter, by its pressure, causes absorption in one direction or another; and it generally progresses in the direction in which the tissues are most yielding. In the lungs, and some other parts, there is no circumscription, but the matter is infiltrated throughout the texture. Abscesses occurring internally may produce various accidents on their way to the surface of the body. The protective inflammation that occurs is beautifully adapted to guard it, and prevent its opening into adjoining parts, for lymph is thrown out which forms a boundary to the matter;—this protection is also effected by the formation of adhesion between different membranes. It is also of the greatest importance that the *system*, generally, should be preserved from the influence of the pus, for, when it is diffused, the most baneful consequences are produced.

A New Cranial Saw.—M. Berthérand has invented a saw for cutting the cranium, in examinations after death, and calls it a *cranial cyclotome*. It consists of a saw, concave at one edge and convex at the other, which, by means of a screw, can be turned in its long handle, so as to present either edge at will in the direction for cutting. It is also fitted with a copper conductor, which can be worked in the same way, and fixed at any required distance from the edge, so as to prevent the saw from passing too deeply through the skull.

Remarkable Case of Thoracic Fistula.—A patient labouring under this malady described in a German Journal is a clarionet-player, who notwithstanding this diseased state, can follow his avocation and take long walks. He closes the opening in his side with a cork; and as often as he *uncorks* himself, air mixed with pus passes freely in and out through the aperture.

ART OF COPYING ENGRAVINGS, OR ANY PRINTED CHARACTERS FROM PAPER, ON METAL PLATES, &c.

By Mr. Robert Hunt.*

The Journal of the Academy of Sciences of Paris, for the 18th of July, 1842, contains a communication made by M. Regnault, from M. Moser, of Konigsberg, "Sur la formation des images Daguerriennes;" in which he announces the fact, that, "*when two bodies are sufficiently near, they impress their images upon each other.*" The Journal of the 29th of August contains a second communication from M. Moser, in which the results of his researches are summed up in twenty-six paragraphs. From these I select the following, which alone are to be considered on the present occasion:—"All bodies radiate light even in complete darkness.—This light does not appear to be allied to phosphorescence, for there is no difference perceived whether the bodies have been long in the dark, or whether they have been just exposed to daylight, or even to direct solar light.—Two bodies constantly impress their images on each other, even in complete darkness.—However, for the image to be appreciable, it is necessary, because of the divergence of the rays, that the distance of the bodies should not be very considerable.—To render the image visible, the vapour of water, mercury, iodine, &c., may be used. There exists *latent light*, as well as latent heat."

The announcement at the last meeting of the British Association of these discoveries (*Athen. ante*, p. 687), naturally excited a more than ordinary degree of interest. A discovery of this kind, changing, as it does, the features, not only of the theories of light adopted by philosophers, but also the commonly received opinions of mankind, was more calculated to awaken attention than anything which has been brought before the public since the publication of Daguerre's beautiful Photographic process. Having instituted a series of experiments, the results of which appear to prove that these phenomena are not produced by *latent heat*, I am desirous of recording them.

I would not be understood as denying the absorption of light by bodies; of this I think we have abundant proof, and it is a matter well deserving attention. If we pluck a Nasturtium when the sun is shining brightly on the flower, and carry it into a dark room, we shall still be enabled to see it by the light which it emits. The human hand will sometimes exhibit the same phenomenon, and many other instances might be adduced in proof of the absorption of light, and I believe, indeed, of the principle that light is latent in bodies. I have only to show that the conclusions of M. Moser have been formed somewhat hastily, being led, no doubt, by the striking similarity which exists between the effects produced on the Daguerreotype plates under the influence of light, and by the juxta-position of bodies in the dark, to consider them as the work of the same element.

1. Dr. Draper, in the Philosophical Magazine for September, 1840, mentions a fact which has been long known, that "if a piece of very *cold* clear glass, or what is better, a *cold* polished metallic reflector, has a little object, such as a piece of metal, laid on it, and the surface be breathed over once, the object being then carefully removed, as often as you breathe again on the surface, a spectral figure of it may be seen, and this singular phenomenon may be exhibited for many days after the first trial is made." Several other similar experiments are mentioned, all of them going to show that some mysterious molecular change has taken place on the metallic surface, which occasions it to condense vapours unequally.—2. On repeating this simple experiment, I find that it is necessary for the production of a good effect, to use dissimilar metals; for instance, a piece of gold or platina on a plate of copper or of silver, will make a very decided image, whereas, copper or silver on their respective plates give but a very faint one, and bodies, which are bad conductors of heat, placed on good conductors, make decidedly the strongest impressions when thus treated.—3. I placed upon a well polished copper plate, a sovereign, a shilling, a large silver medal, and a penny. The plate was gently warmed by passing a spirit lamp along its under surface; when cold, the plate was exposed to the vapour of mercury; each piece had made its impression, but those made by the gold and the large medal were most distinct; not only was the disc marked, but the lettering on each was copied.—4. A bronze medal was supported upon slips of wood, placed on the copper, one-eighth of an inch above the plate. After mercurialization, the space the medal covered was well marked, and for a considerable distance around the mercury was unequally deposited, giving a shaded border to the image.—5. The above coins and medals were all placed on the plate, and it was made too hot to be handled, and allowed to cool without their being removed; impressions were made on the plate in the following order of intensity—gold, silver, bronze, copper. The mass of the metal was found to influence materially the result; a large piece of copper making a better image than a small piece of silver. When this plate was exposed to vapour, the results were as before (3, 4). On rubbing off the vapour, it was found that the gold and silver had made permanent impressions on the copper.—6. The above being repeated with a still greater heat, the image of the copper coin was, as well as the others, most faithfully given, but the gold and silver only made permanent impressions.—7. A *silvered* copper plate was now tried with a moderate warmth (3). Mercurial vapour brought out good images of the gold and copper; the silver marked, but not well defined.—8. Having repeated the above experiments many times with the same results, I was desirous of ascertaining if electricity had any similar effect; powerful discharges were passed through and over the plate and discs, and it was subjected to a long-continued current without any effect. The silver had been cleaned off from the plate (7); it was now warmed with the coins and medals upon it, and submitted to discharges from a very large Leyden jar; on exposing it to mercurial vapour, the impressions were very prettily brought out, and, strange to say, spectral images of those which had been received on the plate when it was silvered (7). Thus proving that the influence, whatever it may be, was exerted to some depth in the metal.—9. I placed upon a plate of copper, blue, red, and orange coloured glasses, pieces of crown and flint glass, mica, and a square of tracing paper. These were allowed to remain in contact half-an-hour. The space occupied by the red glass was well marked, that covered by the orange was less distinct, but the blue glass left no impression; the shapes of the flint and crown glass were well made out, and a remarkably strong impression where the crown glass rested on the tracing paper, but the mica had not made any impression.—10. The last experiment repeated; after the exposure to mercurial vapour, heat was again applied to dissipate it, the impression still remained.—11. The experiment repeated, but the vapour of iodine used instead of that of mercury. The impressions of the glasses appeared in the same order as before, but also a very beautiful image of the mica was developed, and the paper well marked out, showing some relation to exist between the substances used and the vapours applied.—12. Placed the glasses used above (9, &c.), with a piece of well smoked glass, for half-an-hour, one-twelfth of an inch below a polished plate of copper. The vapour of mercury brought out the image of the smoked glass only. 13. All these glasses were placed on the copper and slightly warmed: red and smoked glasses gave, after vaporization, equally distinct images, the orange the next, the others left but faint marks of their forms; polishing with Tripoli and putty powder would not remove the images of the smoked and red glasses.—14. An etching, made upon a smoked etching ground on glass, the copper and glass being placed in contact. The image of the glass only could be brought out.—15. A design cut out in paper was pressed close to a copper plate by a piece of glass, and then exposed to a gentle heat; the impression was brought out by the vapour of mercury in beautiful distinctness. On endeavouring to rub off the vapour it was found that all those parts which the paper covered

* For this interesting paper we are indebted to our able contemporary, the *Athenæum*.

amalgamated with mercury, which was removed from the rest of the plates; hence there resulted a perfectly permanent white picture on a polished copper plate.—16. The coloured glasses before named (9, 12), were placed on a plate of copper, with a thick piece of charcoal, a copper coin, the mica, and the paper, and exposed to fervent sunshine. Mercurial vapour brought up the images in the following order—smoked glass, crown glass, red glass, mica beautifully delineated, orange glass, paper, charcoal, the coin, blue glass; thus distinctly proving, that the only rays which had any influence on the metal, were the calorific rays. This experiment was repeated on different metals, and with various materials, the plate being exposed to steam, mercury and iodine; I invariably found, that those bodies which absorbed or permitted the permeation of the most heat, gave the best images. The blue and violet rays could not be detected to leave any evidence of action, and as spectra imprinted on photographic papers by light which had permeated these glasses, gave evidence of the large quantity of the invisible rays which passed them freely, we may also consider those entirely without the power of effecting any change on compact simple bodies.—17. In a paper which I published in the Philosophical Magazine, for October 1840, I mentioned some instances in which I had copied printed pages and engravings on iodized paper, by mere contact and exposure to the influence of the calorific rays, or to artificial heat. I then, speculating on the probability of our being enabled by some such process as the one I then named to copy pictures and the like, proposed the name of THERMOGRAPHY, to distinguish it from Photography.—18. I now tried the effects of a print in close contact with a well-polished copper-plate. When exposed to mercury, I found that the outline was very faithfully copied on the metal.—19. A paper ornament was pressed between two plates of glass, and warmed, the impression was brought out with tolerable distinctness on the under and warmest glass, but scarcely traceable on the other.—20. Rose leaves were faithfully copied on a piece of tin plate, exposed to the full influence of sunshine, but a much better impression was obtained by a prolonged exposure in the dark.—21 With a view of ascertaining the distance at which bodies might be copied, I placed upon a plate of polished copper, a thick piece of plate glass, over this a square of metal, and several other things, each being larger than the body beneath. These were all covered by a deal box, which was more than half an inch distant from the plate. Things were left in this position for a night. On exposing to the vapour of mercury, it was found that each article was copied, the bottom of the deal box more faithfully than any of the others, the grain of the wood being imaged on the plate.—22. Having found, by a series of experiments, that a blackened paper made a stronger image than a white one, I very anxiously tried to effect the copying of a printed page or a print. I was partially successful on several metals, but it was not until I used copper-plates amalgamated on one surface, and the mercury brought to a very high polish, that I produced anything of good promise. By carefully preparing the amalgamated surface of the copper, I was at length enabled to copy from paper line-engravings, wood-cuts, and lithographs, with surprising accuracy. The first specimens produced (which were submitted to inspection), exhibit a minuteness of detail and sharpness of outline quite equal to the early daguerrotypes and the Photographic copies, prepared with chloride of silver.*

The following is the process at present adopted by me, which I consider far from perfect, but which affords us very delicate images. A well-polished plate of copper is rubbed over with the nitrate of mercury, and then well washed to remove any nitrate of copper which may be formed; when quite dry, a little mercury taken up on soft leather or linen, is well rubbed over it, and the surface worked to a perfect mirror. The sheet to be copied is placed smoothly over the mercurial surface, and a sheet or two of soft, clean paper being placed upon it, is pressed into equal contact with the metal by a piece of glass, or flat board; in this state it is allowed to remain for an hour or two. The time may be considerably shortened by applying a very gentle heat for a few minutes to the under surface of the plate. The heat must on no account be so great as to volatilize the mercury. The next process is to place the plate of metal in a closed box, prepared for generating the vapour of mercury. The vapour is to be slowly evolved, and in a few seconds the picture will begin to appear; the vapour of mercury attacks those parts which correspond to the white parts of the printed page or engraving, and gives a very faithful but somewhat indistinct image. The plate is now removed from the mercurial box, and placed in one containing iodine, to the vapour of which it is exposed for a short time; it will soon be very evident that the iodine vapour attacks those parts which are free from mercurial vapour, blackening them. Hence there results a perfectly black picture, contrasted with the grey ground formed by the mercurial vapour. The picture being formed by the vapours of mercury and iodine, is of course in the same state as a Daguerrotype picture, and is readily destroyed by rubbing. From the depth to which I find the impression made into the metal, I confidently hope to be enabled to give to these singular and beautiful productions a considerable degree of permanence, so that they may be used by engravers for working on. It is a curious fact, that the vapours of mercury and of iodine attack the plate differently, and I believe it will be found that vapours have some distinct relation to the chemical or thermo-electrical state of the bodies upon which they are received. Moser has observed this, and attributes the phenomena to the colours of the rays, which he supposes to become latent in the vapour on its passing from the solid into the more subtle form. I do not, however, think this explanation will agree with the results of the experiments. I feel convinced that we have to deal with some thermic influence, and that it will eventually be found that some purely calorific excitement produces a molecular change, or that a thermo-electrical action is induced, which effects some change in the polarities of the ultimate atoms of the solid.

These are matters which can only be decided by a series of well-conducted experiments. Although attention was called to the singular manner in which vapours disposed themselves on plates of glass and copper, two years since by Dr. Draper, Prof. of Chemistry at New York, and about the same time to the calorific powers of the solar spectrum, by Sir John Herschel, and to the influence of heat artificially applied, by myself (17), yet it is certainly due to M. Moser of Konisberg, to acknowledge him to be the first who has forcibly called the attention of the scientific world to an inquiry which promises to be as important in its results as the discovery of the electric pile, by Volta.

* The first faithful copy of the lines of a copper-plate engraving was obtained by Mr. Cantabrana, who has since succeeded in procuring some tolerable specimens on amalgamated copper, which cannot be rubbed off.

CALOMEL IN OPHTHALMIA NEONATORUM.—Calomel in this case is spoken of by German writers as very successful. The manner of introducing the calomel into the eye is by means of a camel's hair pencil loaded with the powder, which is shaken from it into the eye, while an assistant separates the lids. In the treatment of the ophthalmia neonatorum this remedy may be had recourse to as soon as the first traces of the disease appear, and its employment once daily is then in general sufficient. After the lapse of from half an hour to two hours, according to the quantity of the secretion, the eye may be washed from the powder, and the ordinary rules as to cleanliness be attended to. In severe cases the application may be repeated twice every day; but when the disease is mild a single application daily suffices to effect a cure in from four to ten days, if the remedy had been had recourse to from the outset. The more severe and infractable forms of the disease do not appear to have been benefitted by the local employment of calomel.

LECTURES ON CHEMISTRY.

By JOHN SCOFFERN, M.B., Lecturer on Chemistry, at the Aldersgate School of Medicine.

I purpose in this lecture continuing our examination of the chemical agencies of voltaic electricity and, as a necessary prelude to this subject, I will remind you, that when speaking of chemical attraction or affinity, I stated we had no means whatever of estimating its real amount; but it was most rational to assume, that when many compounds were formed by the union of two bodies in several proportions, the most permanent body, the one in which the form of affinity was strongest, would be constituted of single atoms. Hence it would follow, according to the electro-chemical theory of Davy, that bodies of this class, and which are known to chemists under the name of *proto*-compounds, as *protoxides*, *protochlorides*, and the like, should, amongst others, require the greatest amount of voltaic energy for their decomposition. Almost every experiment that we can devise appears to demonstrate that the elements of proto-compounds are held together with greater force than their corresponding associates. I take (as an example almost at random), the two principal compounds of lead and oxygen—the protoxide and the peroxide. I heat the former, without producing any change in its constitution, but by heating the latter, I drive off oxygen, and it is reduced to the condition of protoxide. This experiment shows that one is more stable than the other, the protoxide being most so.

Entering, then, upon the study of voltaic decomposition, with such ideas as this experiment naturally gives rise to, we should not expect that proto-compounds would be very easily decomposed; certainly not with greater ease than their associates: yet Faraday has demonstrated that the former *alone* are capable of decomposition by the *direct* or *primary* agency of voltaic electricity. Other secondary agencies frequently modify the result a good deal, and they misled former experimenters, but we shall do well to disregard them altogether. Remember, then, that only proto-compounds, so far as we know, are capable of direct voltaic decomposition; although we have every reason to believe that in the constitution of such, there is lavished the very maximum of affinity. So universal is this result on known proto-compounds, that we sometimes appeal to it for determining a doubtful case. Thus, it was doubted, and is now by some, whether the liquid *water* be actually a proto-compound or otherwise; but it is easily decomposed by voltaic electricity, and therefore to be in accordance with the best analogies, we must pronounce it a proto-compound.

I need scarcely indicate how diametrically opposed these results are to the deductions of Sir H. Davy's theory; which assumes that every compound should be decomposable by a sufficient amount of voltaic force, and first of all, those compounds which have the weakest affinities. This discovery was made by Faraday, who also proved that the same amount of electricity always decomposed equal equivalent or *atomic* quantities of different decomposable substances, and that hence there might be indicated electrical as well as chemical equivalents. The remark will be more evident after an examination of the accompanying illustration:

9 grs. of water are composed of	8 grs. oxygen + 1 gr. hydrogen
37 grs. of hydrochloric acid, of	36 „ chlor. + 1 „ ditto
15 grs. chloride of silver, of	36 „ ditto + 103 „ silver
230 grs. of iodide of lead, of	103 „ iodine + 101 „ lead

Now any electrical force which is capable of decomposing 9 grains of water into its elements, will also decompose 37 grains of hydrochloric acid, 115 grains of chloride of silver, and 230 grains of iodide of lead. If we insist upon the absolute identity of chemical and electrical agencies, we are led to a very curious deduction—namely, that

the elements of all compounds decomposable by voltaic electricity are united with equal force; in other words, that there exist no differences between the amount of their chemical affinities, because we have seen that the same amount of electrical force will separate into their respective elements 9 grains of water, 37 of hydrochloric acid, &c. Thus, so far as relates to proto-combinations, we should accept the philosophy of Berthollet, who believed that the attractions existing between the elements of compounds were all equal; or, more properly speaking, that there was no such force as *chemical attraction* in existence.

Besides demonstrating the fact, that there might be instituted electro-chemical equivalents, and that none but proto-combinations were susceptible of voltaic decomposition, Faraday proved by a series of well-concerted experiments, that the poles or ends of a battery had (in the correct acceptation of the term) no attractive force; that elements proceeded thither not on account of an attractive influence *merely* soliciting them, but on account of a force generated within themselves impelling or determining them: that in point of fact, such bodies, during decomposition, were not to be regarded as extraneous to the battery, and merely acted upon by it, but that they actually formed part of the battery, and necessarily reciprocated any force recognisable in any other part of that battery.

Finding the theory of Davy imperfect, and being solicitous lest these imperfections should be perpetuated by terms in use, Dr. Faraday has introduced certain others into philosophical language, which I will now describe. In the first place then, since all compounds are not decomposable by direct voltaic influence, it would be well to coin a term, indicative of those which are: the term electrolyte is concise and expressive, and indeed answers every purpose. It originates in two Greek words, signifying *amber*, and *to loosen, or separate*; and its indication are sufficiently plain without any comment. The term electrolize, expresses the act of volta-electrical decomposition. Unfortunately associated as is the term of *pole* with an attractive influence, Faraday very properly objects to it. He maintains that the ends, or so-called poles of a voltaic arrangement are merely the doors, or ways through which the electricity moves, and that if certain bodies are found near either one or the other, it is not because they are attracted there; but they are determined in *that direction*, and can get no farther on account of the solid and unyielding nature of the ends or poles. This, Faraday verified by making the so called poles of liquid or yielding materials, in which case the elements of a decomposed compound proceeded on till they met with some opposing solid. For these reasons the term *electrode* was invented from a Greek word signifying *away*. Furthermore, the one fluid theory of Franklin was adopted as convenient in these cases, and it was assumed that electricity entered upon its course at the positive end, and terminated it at the negative: the rising and setting sun were the ideas which suggested themselves to Faraday as analogous to this case, therefore, he called the positive or emitting end, the anode, and the negative, or receiving end, cat-ode, or cathode, downwards. Again, the propriety of the terms electro-positive and electro-negative was disputed, inasmuch as bodies could not be proved to possess naturally either kind of electricity. Elements which were capable of being determined to either end of a voltaic arrangement, he called ions, from the Greek to go; Thus we have anions, or bodies which go to the positive pole (electro negatives), and cathions or electro positives. I call your attention to a table of simple and compound ions, that is, bodies which have been proved capable of being separated from their compounds by voltaic agency.

ANIONS.

Oxygen	Selenic acid	Tartaric acid
Chlorine	Nitric acid	Citric acid
Iodine	Chloric acid	Oxalic acid
Bromine	Phosphoric acid	Sulphur
Fluorine	Carbonic acid	Selenium
Cyanogen	Boracic acid	Sulphocyanogen
Sulphuric acid	Acetic acid	

CATIONS, OR CATHIONS.

Hydrogen	Cadmium	Lithia
Potassium	Cerium	Baryta
Sodium	Cobalt	Strontia
Lithium	Nickel	Lime
Barium	Antimony	Magnesia
Strontium	Bismuth	Alumina
Calcium	Mercury	Protoxides—generally
Magnesium	Silver	Quinia
Manganese	Platinum	Cinchonia
Zinc	Gold	Morphia
Tin	——	Vegeto alkalis—generally
Lead	Ammonia	
Iron	Potassa	
Copper	Soda	

Carbon, phosphorus, nitrogen, silicon, boron, and aluminium, have not yet been experimentally proved to be ions, although analogy leads us to suppose they are. Amongst compound bodies, the same uncertainty exists in regard to the compounds silica and alumina. On account of these doubtful cases it will be seen that, although the terms, anion and cathion, are more correct than those of electro-positive and electro-negative, yet for the purposes of chemical classification, the latter are, perhaps, more generally useful, inasmuch as no substance can be called an anion except it has been proved capable of going to the anode, and *vice versa*, whereas strong analogies have been thought sufficient to entitle it to the name of *electro-negative*. In all cases of voltaic decomposition two elements are determined in certain directions, one to either end of the battery. Supposing water to be the example, we find hydrogen to be liberated at the negative or cathode, and oxygen at the other. Now, no particle of hydrogen can be liberated, without setting free a particle of oxygen, and no particle of oxygen without eliminating one of hydrogen; an interesting question arises, then, in connection with this phenomenon: what becomes of the particles thus set free? It would seem, judging from the ultimate effects of the battery, that the bulk of a decomposing fluid must be traversed continually by these two kinds of particles, each going in an opposite direction, but invisibly. I believe Grotthus was the first who explained this, by assuming that each simple particle of a compound substance between the two poles or electrodes, combined with its opposite, so as continually to regenerate the compound,—a state of things which may be roughly assimilated to a continual change of partners in walking down a country dance; or, if you do not consider my illustration particularly happy, perhaps the accompanying literal one will be more fortunate. Water is composed of oxygen and hydrogen, as you are aware; therefore, it may be indicated thus **OH** Suppose a portion of water, about to have voltaic electricity passed through it in the direction of the arrow to be indicated thus

+ OH OH OH −

The signs + and −, representing the anode and cathode respectively. Then it is presumed that the particles, in order to bring themselves into proper position, revolve over each other in a cycle, either right or left handed, according as the electric current might vary in direction. In this instance the cycle would be right handed, and the particles in their intermediate condition would stand thus

+ H O O O −
H H

preparatory to their being brought thus

+ OH OH −

as originally; when, of course, the remaining oxygen and hydrogen would have to change partners again, and leave them as before, until all became decomposed. In Faraday's words, "The current is an axis of power, equal, and exerted in opposite directions, by which, in every case of a true binary compound, the molecules of one element are carried in one direction, while those of the other constituent move in the reverse course." It will have been gathered from this lecture, that Faraday agrees with Wollaston in attributing the whole of voltaic electricity to chemical action; indeed, he goes farther, and believes that every case of chemical action must give rise to electricity. If this theory be correct, we ought not to be under the *necessity* of referring to particular forms of apparatus for the sake of witnessing the effects of voltaic electricity, although such particular forms might be most convenient. We ought to be able to take any case of chemical action at random for this purpose, or, at all events, the supposition of our taking it ought not to seem an absurdity.

We have seen that the most powerful voltaic arrangements are those in which there are two metals and a fluid; the latter being only capable of acting upon one metal. If we dispense with the second metal we may generally have chemical action, but we destroy our voltaic arrangement. This is satisfactory, for it proves that the addition of a second metal increases chemical action on the first, and we may easily imagine the forces determining combination to be so nicely balanced, that without this second metal no combination would result at all. The use of this second piece of metal in a voltaic arrangement appears to be that of restoring by its conducting power the electrical equilibrium of the other two, an equilibrium which their chemical union as immediately disturbs. Hence the more readily this equilibrium is restored, the more rapid may we suppose the chemical union to be. Although the perfection of a voltaic current is insured by the presence of a second metal, yet when bodies have a tendency to unite, it would be difficult, if not impossible, to prevent those currents altogether; hence we may easily suppose chemical and voltaic actions to be always simultaneous, although we cannot trace, in the majority of instances, the most perfect conditions, indicated by a knowledge of voltaic electricity. By availing ourselves of those conditions, however, we can generally exalt the chemical energies, although by doing the contrary to the utmost of our power, we cannot always abolish them altogether. Our time does not admit of my treating voltaic electricity more in detail. I regret my inability from this cause, to mention the numerous applications which have been made of this most wonderful agent. I cannot, however, conclude without drawing your attention to the beautiful arts of electrotype, and electro-gilding. To practice these arts with success much experience is requisite; but their theory is very easy, and may be explained in a few words: indeed, you are already aware, perhaps unconsciously, of the process to be followed. You remember the principle of action of the constant battery—how a layer of copper was caused to be deposited on the original copper!—Well, if this original copper had been engraved, of course the deposited metal would have assumed the same pattern,—thus I very briefly explain to you the nature of electrotype. By acting on solutions of gold and silver we can deposit these metals; these are the processes, called respectively electro-gilding and silvering.

GUNSHOT WOUND.

SECONDARY HÆMORRHAGE AND LIGATURE OF THE COMMON CAROTID ARTERY.

By William Smith, Esq., Surgeon.

(For the "Medical Times.")

PRIVATE NEWELL, of the 1st Regiment of the British Auxiliary Legion, during an attack upon the enemy's lines in front of St. Sebastian on the 5th of May, 1837, was hit by a musket ball, which pierced the superciliary ridge of the frontal bone towards its external angle, on the left side of the head; from thence it entered the back part of the orbit, and made its exit on the superior and posterior aspect of the pharynx of the same side. It now proceeded across the cavity of the mouth, and entered the lower portion of the pharynx on the opposite side and proceeding downwards and forwards, it lodged under the lower third of the sterno cleido-mastoideus muscle of the

right side of the neck. The site of the ball was not discovered immediately after the receipt of the injury, nor until after death.

The case was conveyed to the General Military Hospital of St. Zelmo, in St. Sebastian, the same evening on which the wound was received; and the patient seemed to go on favourably until the afternoon of the 11th., or the 8th. day after the accident. On that day I was doing the duty of orderly medical officer at the hospital, and about five in the afternoon I was called to see Newell, who, I was told, was bleeding at the mouth. On arriving at his bed, I found a small quantity of arterial blood flowing; and directed him to gargle his mouth with cold water, and which being done, the hæmorrhage stopped. On examining the cavity of the mouth, which I did previously to ordering the gargle, I discovered the wounds on the right and left side of the pharynx, and I at the same time saw the blood issuing in a small quantity from that on the left. The case not being under my charge, excepting in so far as my routine of orderly duty was concerned, this was the first time I had examined it particularly. In addition to gargling the mouth I ordered cold water to be constantly applied to the external wound and forehead, hoping by these means, to put a stop to the hæmorrhage if the vessel should be small. From the apparent direction of the wound, I had little doubt but that some of the branches of the internal carotid were injured and most probably the internal maxillary.

Having given these directions, with orders that he should be punctually watched, I left him for that time. About midnight I was again called to him, and informed by the orderly, that he was now bleeding profusely by the mouth. I saw him immediately, and found the bed as well as the floor on one side, covered with blood to the extent perhaps of about lbii.s. I now immediately propo.ed taking up, and securing the external carotid artery, in order to save him, to which proceeding he immediately and gladly consented. There was at this period great pain on the right side of the neck, where the ball was located, and on this account I felt some difficulty in making him bend his neck laterally, so as to expose the left side, on which I intended to operate. By this time I had procured the assistance of the hospital dispensor Mr. Cupples, with two or three of the ward orderlies to stand by in readiness. I commenced the operation by the light of a couple of small candles.

With a couple of pillows under his neck, and lying on his right side, I made a longitudinal incision through the skin and a portion of the integuments, about three inches long, from the lobe of the ear to the middle of the neck, in direction of the sheath of the common carotid and its bifurcation. I very soon got into the sheath, a little under the bifurcation of the vsssel, but my light being very insufficient, I thought I should cut more safely by cautiously pushing in a small grooved director between the anterior part of the vessel and its sheath, as far as the bifurcation. I did so, and ran the bistoury along it, but lo, and behold! the blood issued from my incision in a full arterial stream; so that I thought at the moment that I had cut either the external or the internal carotid right across. By pressing my finger, however, firmly upon the common carotid, which I had now full power of, I cleaned and examined my incision, and found that matters were not so bad as I had apprehended; I had only cut across the superior thyroid artery, which in this case had taken its origin from the trunk of the common carotid. I placed a ligature upon it without delay, and now judged it my best plan to tie the common carotid at the point where I first exposed it. This was completed in a few minutes, and the wound of the integuments was clo.ed with three interrupted sutures and adhesive plaister. The hæmorrhage was completely arrested; but his pulse was weak and compressible. At 5 in the morning he became unable to articulate; and at 7 he was comatose. He died at half-past 8 A.M., eight hours after the operation.

Sectio cadaveris, at 3 P.M. The ball had struck the outer angle of the left orbital or superciliary ridge of the frontal bone, fracturing a portion and descending through the floor of the orbit at its posterior part. It had passed close to the optic nerve, but without injuring it, or fracturing the orbital plate of the frontal bone. From thence it had passed in a direc line to the posterior part of the pharynx, and made its exit on a line parallel to the last molar tooth of the upper jaw, to the left of the mesial line. It had again entered on the lower and opposite side of the pharynx, fracturing the internal and external pterygoid processes of the sphenoid bone of the right side, brushed through between the external and internal carotid arteries, without injuring either of them or their accompanying veins, and lodged under the belly of the sterno-cleido-mastoideus muscle, in the lower third of its extent. There it was found surrounded by a large quantity of coagulated blood. The coats of the eye were uninjured to appearance, but the aqueous and vitreous humours were similar to coagulated blood. The crystalline lens was soft, and almost approaching to fluidity. On opening the tumour on the right side of the neck, the whole space from the clavicle to the mastoid process of the temporal bone was in a complete mass of disorganisation; and it was only with the greatest difficulty that the great blood-vessels could be discovered. On laying open the abdomen, the stomach was found filled with coagulated blood; and from the pylorus to the rectum, the intestines were filled with the same. From the circumstance of the stomach and intestines being thus filled with blood, it would appear that the hæmorrhage had commenced at a considerable time previous to the operation, undiscovered—or before it had issued from the mouth. Perhaps during the sleep in which the patient had fallen between my first and second visits to him on the night of the operation, the vessel or vessels had poured out blood in such quantity as was found in the stomach and intestines; and which had prevented the success of the operation, by the loss of such a large quantity of the vital fluid which the operation was now performed too late to preserve.

167, Bishopsgate Street, Without,
November, 11, 1842.

EXTRACTS FROM FOREIGN JOURNALS.

(Translated from the Berlin Medical Gazette for the "Medical Times.")

GERMAN.—*Account of the relative number of Births and Deaths in the Prussian States in* 1841, *compared with those of* 1840. By DR. HOFFMAN, Director of the Bureau of Statistics.—This is an interesting paper, especially to those who are engaged in the study of statistics; the following are the principal facts.

In 1841, in the eight provinces of Prussia, except the Principality of Neufchatel, but including the whole military, the population is now, 1842, males, 7,448,582; females, 7,479.919; total, 14,928,501. In 1841, were born 591,505; died 415,256; increase 176,249. The difference of the sexes born, as follows:—

Born in wedlock, males	283,027
—— Females	266,349
Out of wedlock, males	21,419
—— Females	20,710
Legitimate total	549,376
Illegitimate total	42,129
	591,505
Among the births, cases of twins .	6,277
Triple births	67
Quadruple births	3
The number of still-born were .	22,754

Number of deaths at different periods of the year.

Jan. Feb. Mar.	124,416
April, May, June, ...	96,405
July, Aug. Sept.	91,503
Oct. Nov. Dec..	102,932
Total	415,256

The deaths are divided into periods, which are, still-born, the 1st. year after birth, from thence to the end of the 3rd. year, then to the 7th. 14th. 20th; after, in periods of five years, to above eighty. Among the different causes of death given in the paper, are the suicides; the number, of which are, males 1,305; females, 325: total, 1,630; giving the proportion to the whole population, males is 1 to 5.708—females, 1 to 23.015.

Strangulation of the Os Uteri, caused by a ring-Pessary.—The patient, the wife of a farmer, had some years before suffered from prolapsus uteri, for which she had pushed up the vagina a wooden ring; it had the effect of keeping up the uterus, but soon produced painful effects. She was at length obliged to keep her bed. Upon examination, the os uteri was found projecting through the eye of the pessary, forming an elastic fleshy cylinder $2\frac{1}{2}$ inches long, $1\frac{1}{2}$ inch in diameter, which the writer compares to a paraphymosis; above this was found the wooden ring full $2\frac{1}{2}$ inches in diameter—its eye might be an inch in diameter, through which had passed the neck of the uterus, which was so pressed, as to form the cylinder above-mentioned; yet not so much strangulated as to prevent the outflow of the menstrual secretion. The vagina was much excoriated and painful; the treatment was antiphlogistic; the os uteri well scarified and rubbed every two hours with iodine ointment and opium, solution of lead applied freely to the vagina, and its walls smeared with ung. saturn; the ring after the reduction of the swollen os uteri, was at length extracted piece-meal by strong nippers.

Malformation of the Parts of Generation.—In a child eighteen days old, which died from bronchitis. Close under the navel the bladder projected, forming a roundish, spongy feeling, dark red tumour, about the size of a walnut. The mons veneris was consequently wanting, and the regio hypogastrica appeared remarkably shortened. The openings of the ureters lay at the under part of the tumour, hidden in a furrow, and observable only in the dead subject, from which the urine was continually oozing out, keeping the child constantly wet. The Penis was about half an inch in length, flattened, without any urethral passage, instead of the prepuce it was surrounded by two strong, lip-like, dark red folds of skin, which commenced in the furrow beneath the bladder, continuing below into the well-formed scrotum. On the back of the penis ran a shallow channel from before to behind, as it

were the rudiment of the absent urethra. In the scrotum, which was not so large as is usual with new-born boys, yet otherwise well formed, the testes and epididymes lay on each side of the raphe. On the section, the internal urinary and sexual organs showed nothing abnormal except the more spongy than membranous appearance of the urinary bladder. The vasa deferentia were continued as far as the furrow between the bladder and penis; no trace of ossification was found in the pubis; the cartilaginous rudiments of these bones stood quite an inch apart from each other. The abdominal muscles were generally little developed; the pyramidales entirely absent.

Hereditary Phymosis.—Five brothers are mentioned, who, as well as their father, had congenital phymosis. They were cured by circumcision, by Dr. Rupprecht.

Sudden Dumbness.—In consequence of a fright and quarrel with her husband, a very choleric woman suddenly and completely lost the use of her speech, and remained so three weeks; the curative means were first an emetic, then decoct. sinap. internally and washing the mouth with the same; chewing pepper, horse radish, &c., and applying blisters to the back of the neck—speech returned by degrees—she was quite well in six months.

Exit of a Stone from the Bladder through an Abscess in the Rectum.—Nature in this case ejected a stone from the bladder of the size of a walnut, by the same way in which art by the sectio lateralis would have extracted it, and with greater danger to life.

FRENCH.—*On the Origin of Organic Forms.* By M. VIREY.—The subject of the *origin of organic forms* has not hitherto received its due consideration. According to the system of pantheism, we are compelled to admit the *spontaneous formation* even of man and the larger animals, from all eternity, and by a species of fatalism, without the intervention of any distinct or superior intelligence, or by the activity of matter alone. But, if there are evident proofs in natural history: 1st. That organized beings are connected one with another by harmonious relations, according to a regular system; 2nd. That races are not arbitrarily developed, that they establish even insurmountable limits between species, however near allied, and are opposed to the creation of intermediate or permanent hybrid races; 3rd. Lastly, that obstacles are found to exist to the pretended spontaneous, free or physico-chemical generations; we must admit that the production of organic forms does not result from chance or from material circumstances only; a fact of the highest importance; for it would lead us to acknowledge a distinct, and infinitely fore-seeing cause in the generation of *vegetable* and *animal* beings; a cause producing such a chain of relations, and so regular a system of organization. This concatenation of the natural families of organised beings, both vegetable and animal, has long been acknowledged. The ancient philosophers, while admitting spontaneous and irregular generations, had no distinct idea as to the chain of beings and their connections. Aristotle however, in his grand classifications still acknowledged as the bases of zoology, paid great attention to their principal relations of structure. Hence arose his discovery of the symmetrical system pervading nature, which could not possibly result from a fortuitous concourse of inorganic elements or atoms. In fact, the various *species* or *types* presented on our globe are not isolated and unconnected, they belong to an harmonious whole: attesting their common parentage or origin by their intimate *alliances* and *affinities*. Some have asserted that by an original union between distant branches of the creation, repeated at various periods during the long course of ages, has arisen that infinite multitude of races more or less allied, which, successively mingling one with another, have generated that vast hierarchy of species linked together by similar genera and families. Hence, it is said, the unity, the harmony, which appears to pervade the numerous classes of beings, binding together their various elements. Hence, our inability to fix *assignable limits to species and their varieties*, by reason of their various causes of modification from climate, temperature, food, &c. We cannot therefore—it is asserted—wonder at those innumerable races of insects, and plants, in various regions, at their mutual relations and anastomoses. But this theory supposes the possibility of free unions, of a promiscuous intercourse, as it were, between all animal or vegetable species; producing an universal and unrestrained degeneracy throughout the whole globe; leaving no fixed or determined type, but resulting in forms incessantly changing.

We have examined, in the various classes of animals and vegetables, the obstacles opposed to this promiscuous connection of species and confusion of organised nature. There is not only a *law of variety* in the organic productions of our globe, but also an *order of fixity* in the constancy and separation of the types, or the preservation of their original purity, since the *varieties* return spontaneously to their *native standard*, by a succession of oscillations, resembling as it were the pendulum of a clock. Among the conditions of the existence of beings, one of the least remarkable but most essential, is that which *limits the crossing* of species, or which maintains the *prototype* forms. This fact is in itself an evidence against the spontaneousness of organic formations, or their production at *hazard*. In the case of hybrids or mules, we see an alliance between proximate *species*, but not between different *genera*. Thus the carnivora do not mingle themselves with the herbivora; there are assigned limits beyond which the mingling of distinct organisations cannot take place. This law is of equal application in the vegetable kindom, where nature distinguishes the specific types by ingenious constructions. Thus the fecundating pollen, from its form, its size, or the circumstances of flowering time, is unable to fertilize the ovary of every flower or penetrate within the style; it requires certain intimate connexions and fitting periods for fecundation to take place. This isolation of species becomes essentially necessary among aquatic animals, the fish, the inferior races of so many myriads of mollusca, and zoophytes, scattering their spawn upon the waters. Thus each species of ovum undoubtedly accepts and can absorb only the liquid emanating from its normal type, which alone is capable of vivifying it. Hybrids are rare among them. This law of isolation is in like manner fully borne out among insects, some races of which, as the *hymenopteri*, carry a scaly apparatus around the valva, which effectually prevents sexual union with the males of other species.

The ancient notions admitted with regard to the formation of centaurs or satyrs, are disproved, says M. Virey, by the differences in the periods of fecundity, in the duration of gestation, and the mode of nutrition of the various embryos and of the fœtus in the maternal womb. Each species is borne by an irresistible instinct to its *type of normal unity*, of *beauty* or *perfection* in the important act of reproduction; and the blood revolting at all impure and monstrous connections, assists in accomplishing an eternal separation between the different species.

The objection of *spontaneous generations* might be formidable, inasmuch as it gives to nature the power of producing not only all sorts of irregular and unnatural forms, but would even make her an accomplice of each monstrosity, and governed by no defined limits or laws. In this system of pantheism we have no term to the multiplicity of contingent combinations, which are limited only by the necessity of the elements or contrary forces, and by fatality; *chance becomes the generator of all.* Now, in organized nature there reigns, on the contrary, a constantly normal and regular series of productions. Order and intelligence predominate every where, even in anomalous or monstrous formations. Although the more exact observation of the moderns by means of the microscope has greatly restricted the number of these pretended spontaneous productions, whether among the intestinal worms and other epizoa, or in the class of infusorial animalcula; although we have already shown the existence of sexes in certain genera and a propagation, whether by very small ovules, or by fissures or suckers, as in a multitude of vegetables, it would perhaps be rash to deny altogether the possibility of spontaneous generation in these inferior beings. It has been asserted that there is a *continual creation and a tendency of matter to organisation* every where going on (as the Zoosperms) in the tissues or structures of living beings capable of elaborating them. But these supposed spontaneous animalcules cease to be irregular and orderless in their structure, they assume a *normal shape*, capable of classification; they have their *types*, their *special germs*, very different from the crystalline structure of the mineral. In fact, an organized being is such only by its *entire unity*, binding together its parts so as to confer on it a spontaneousness of action, whether instinctive or voluntary, and a *centre of activity to rule over the entire being.* Life appears only compatible with the emanation and transmission of a *primordial germ in a special form, with organs predestined for a certain end.* Now, these organs manifest themselves in the beings of so called spontaneous creation (the infusoria, the vorticella, intestinal worms, &c.) How then, can they be the work of chance or of some blind power? What has conceived their object, directed their destination, or adapted their structure? The intervention of a creating intelligence becomes then indispensable in all organized vitality. It is a mysterious incarnation, inexplicable by the means within our limited reach. *Life, organization,* as shown upon this globe, are in their attributes and origin the most convincing evidence of an intellectual power in the animal and vegetable kingdom, or the direct emanation of a divinity, of which humanity is the term.

From these considerations, says M. Virey, the hypothesis of pantheism or of the *unity of substance* appears to be perfectly inadmissable.

Researches upon the Development of Bone.—By M. FLOURENS.—*Importance of the Medullary Membrane, or Internal Periosteum in the Formation of Bone.*—M. Flourens states, that in his previous works he has considered the medullary membrane, or internal periosteum only as the organ of the re-absorption of bone; it is, however, also an organ of formation to the bone. In a recent experiment, he removed the entire external periosteum from the tibia of a duck, and the whole of this outer membrane was reproduced. But before this re-production took place, the normal for-

mative action of the internal periosteum became increased, and fresh bone was formed in the interior of the medullary canal. Independently of its power of re-absorption, the internal periosteum has then a power of formation, which becomes especially apparent when the external periosteum is destroyed. When this destruction is performed over the whole extent of the bone, new bone is formed throughout the entire interior of the medullary canal; when on the contrary, the external periosteum is removed but from a portion of the bone, new ossific matter is thrown out only at the corresponding point of the interior of the canal. Hence, the destruction of the external periosteum is always followed by obliteration of the medullary canal in consequence of a new osseous production, and, on the other hand, the obliterated points of the canal always correspond in position to the site of the removed external periosteum. Two agents concur then in the formation of bone; the external, as well as the internal periosteum. In the normal or ordinary state, each of these agents or powers preserves its proper limits; the external periosteum is constantly producing or repairing the outer portion of the bone, and the internal periosteum—the internal or spongy tissue of the bone. There is, in the natural state, a sort of counter-balancing between these two powers. But if we destroy the internal periosteum, the power and action of the external membrane become augmented, and new bone is produced externally to the old one; and *vice versa*.

Experiments upon the Increase in Thickness of Bone.—M. Flourens states that it has previously been proved by experiments with madder, that the increase in thickness of bone is accomplished by layers placed successively one upon the other. He has recently performed still more decisive experiments on this subject. In imitation of Duhamel, he has encircled with platinum-wire various long bones in different animals, dogs, rabbits, and guinea-pigs. In a young rabbit, he first encircled the tibia with a platinum-wire, placed immediately upon the periosteum; the animal was allowed to live twenty-eight days before killing it. The ring of platinum wire was found near the middle of the bone, encircling in some points what remained of the old periosteum, and in other parts it was itself covered by the new periosteum. We see, then, first, that the new periosteum is formed above the old. A second rabbit, experimented on the same day as the preceding one, was not killed till the thirty-eighth day after the operation. In this case, the platinum-ring was not only covered entirely by the periosteum, but it was also, for a certain extent, covered with a layer of bone. Thus the new bone, which had become developed since the application of the ring, was formed above the platinum; that is to say, in external layers placed one above the other. So also with a third rabbit killed a few days later. These experiments, he thinks, are conclusive. The only objection was one suggested by Duhamel, who, after performing similar experiments, and finding that the ring which at first encircled the bone, was afterwards covered by the new formation, supposed that the fibres of the bone while spreading had become ruptured opposite the ring, and had afterwards re-united. M. Flourens exhibited several preparations, in which the bone remained perfectly smooth and shining, without any sign of rupture, at the points still encircled by the ring; and where the ring was itself covered by osseous layers, the bone was seen to be of new formation. From various experiments, he concludes, that the bone does not distend itself, and become ruptured, but that all new bone is formed above the old. In a guinea-pig, the tibia was encircled with a platinum-wire. The tibia of the opposite side was amputated at the same time. The animal survived twelve days after the operation, and was during the whole time fed on madder. A ring or circular enlargement was found near the middle of the bone formed by new bony matter, and from the head of the bone as far as this ring, the colour was perfectly red. Just beneath this enlargement was found the platinum-wire. Lastly, six or eight *millimetres* below the wire the bone was broken so as to exhibit its original structure, which was of a pure white. In this preparation the new bone was perfectly distinct from the old. The new was entirely red, the old white. All the new bone was above the wire, the old was below it. Lastly, the old bone was exactly of the same diameter as that of the opposite leg, which had been removed on the day that the platinum was applied. Bone is then formed by successive layers, placed one externally to the other.

Experiments upon the Increase in Length of Bone.—In imitation of the experiments of Duhamel and J. Hunter, M. Flourens bored two holes in the tibiæ of several rabbits. The space between these holes was measured very exactly. The tibia of the opposite leg was at the same time removed and kept for the purpose of comparison. In one animal which had lived twenty-eight days after the experiment, the interval between the two holes remained the same, although the animal had sensibly enlarged; the tibia in particular had increased twelve *millimetres* in length. Upon other animals killed, the one fifty and the other eighty-seven days after the experiment, the same results were obtained. The bone then elongates itself only by its extremities; it increases in length by terminal layers placed in *juxta-position*.

Mechanism of the Reproduction of the Periosteum.—The periosteum is re-produced by external layers placed one above the other. The before mentioned experiments, performed with the platinum-wire passed around the periosteum, abundantly prove it. In these experiments, the ring is placed above the periosteum, and we may still see the old periosteum beneath the ring, while a new membrane is already formed above the platinum, and covers it over.

SILK HATS AND BALDNESS.

Few people are aware of the evil consequences which may arise from constantly wearing a silk hat; they, indeed, may be sensible of the effects, but the cause remains hidden from them. They are, says the "Chemist," thus manufactured. A body is made of pasteboard, willow, canvass, cane, Mackintosh, or stuff of the proper shape of the hat. Over the body is laid a strong varnish, principally composed of resin, linseed oil, and the commonest, as being the cheapest, naphtha that can be procured, to which silk hats owe their highly offensive, and, we believe, very unwholesome odour, by means of which the silk plush is made to adhere, and by which they are rendered air-tight. The silk cannot be introduced into the body by the same means as the beaver is. It will be perceived that the fur is introduced into the very substance of the body in such a manner as to have the appearance of having grown there, while the silk plush is laid on by means of a thick, glutinous varnish. To these differences are to be attributed the ill effects of which we are now about to speak. It has long been observed, as is well known to the trade, that silk hats keep the head much warmer in summer, and much colder in winter, than beaver hats do, owing to the much greater impermeability of the former, caused by the layer of strong varnish above spoken of. This varnish, stopping ventilation, prevents the passing away of the warm vapour arising from the head while in a state of perspiration, causing it to condense again on the hair, sometimes covering it with large drops. Thus, at a time when ventilation is carried in other things to a prodigious extent under the superintendence of Dr. Reid, the head is kept most prejudicially free from its beneficial effects.

Medical men are well aware of the importance of getting rid of the excretions, and will concur with us in saying that this effect of silk hats must be a highly injurious one, as, indeed, the facts which we shall adduce sufficiently prove it to be.

Men who constantly wear silk hats lose their hair much sooner than those who adhere to the use of beaver; and this will explain to many, who have not before been able to account for it, the reason of their becoming permanently bald, and not unfrequently experiencing very unpleasant sensations about the head. The fact that those who wear silk hats become bald earlier than others is well known to every one in the hat trade. A traveller for a large firm has been heard to say that he would eat every hair left on the head of a man who had worn a silk hat for ten years; meaning, of course, that such a person would be completely bald.

It may not be out of place to mention here, that a manufacturer who makes very large quantities of the silk plush for hats, being desirous of patronising an article from which he derived considerable emolument, ordered a silk hat, and wore it for some time. He experienced very great uneasiness about the head, and, at the advice of a friend to whom he mentioned the circumstance, he left off the silk hat, returned to the use of a beaver hat, and suffered no further inconvenience.

DALBY'S CARMINATIVE.

R. Tr. Opii. ʒj.; Tr. Assafet. ʒiiss.; Olei Carui. ʒj.; Olei Menth. Pip. ʒij.; Tr. Castorei, ʒviss.; Sp. Rectif. ʒvj.—M. S. A.

When the mixture is complete, it is to be divided into two-drachm doses, which are to be poured into small bottles containing from seven and a half to ten drachms a-piece, into each of which a drachm of calcined magnesia has been previously introduced. Finally, the bottles are to be filled up with simple syrup, and a small quantity of rectified spirits, and to be well shaken to mix the whole.

This medicine is one of the most ancient and popular arcana in Great Britain, where it is recommended in the flatulence, gripes, convulsions, &c. of infants; and in the irregular gout, the bloody flux, and violent cholic of adults. It is thought eminently serviceable in the different bowel complaints to which sea-faring men are very subject.

Five or six drops are given to weakly infants two or three days old, in a tea-spoonful of warm water sweetened; and if this dose does not produce the desired effect in six or eight minutes, it is repeated. The dose is augmented in proportion to the age of the little patients, and the severity of the symptoms to be combated. Two doses in a day, or three at the most, are sufficient for the most obstinate cases.

A tea-spoonful is given to infants from one or two years old, or even more if the symptoms are violent. Three tea-spoonfuls are given to children seven years old.

Adults take half or two-thirds of a bottle for a dose, either pure, or mixed with as much warm water as will make it of an agreeable temperature. In all cases it is necessary to shake the bottle before pouring out the dose.

It has been observed that in persons subject to constipation, or who vomit acid matter, it is very useful to combine magnesia with the use of this carminative.

Like other popular nostrums, adds a contemporary, Dalby's Carminative is made after various

receipts, so that the dose which is perfectly safe when the cordial is prepared by A, may be poisonous when it is manufactured by B. In the Returns from the Coroners of England and Wales, made to the House of Commons in 1839, we find ten cases of death from Godfrey's Cordial, and one from Infant's Mixture. Dr. John Clarke mentions an infant destroyed by forty drops of Dalby's Carminative.

TO CORRESPONDENTS.

C. ... is ... attended to in the brochure. *It came too late for the number.*

Declined.—*Donatus—Walter C.—L. L.—A B.—M. D.—Mr. H. Topsham.*

We shall next week give an abstract of the Act regulating the payment of Medical Witnesses, and thus answer at once a host of enquiries we have received on this subject.

Several Correspondents are entitled to our acknowledgments.

The Medical Times Almanac.—*As we take it for granted that all our immediate subscribers will be anxious for a copy of our Almanac, which for fourpence plain, and fivepence stamped, will really give a guinea's worth of solid information, we shall, to save them the expense of writing for it, send a copy with every number that leaves our office. Our other friends are requested to give their orders to their newsmen and booksellers.*

NOTICE.

ON THE 1st OF DECEMBER NEXT, WILL BE PUBLISHED, AS AN APPENDIX TO OUR ORDINARY NUMBER, A **MEDICAL ALMANAC**, REPLETE WITH MATTER THE MOST VALUABLE AND INTERESTING FOR THE MEDICAL PROFESSION.—IT WILL CONSIST OF 72 QUARTO COLUMNS.—Price 4*d.* Plain, 5*d.* Stamped.

Errata.—In Mr. Adam's "Case of Clairvoyance, in our last No., in 2d column, the 26th, 27th, and 28th lines are misplaced—in 3d column, line 81, read "*low*," for "*being*,"—in 4th column, line 37th, for "*moral*," read "*excite*."

THE MEDICAL TIMES.

Saturday, November 26, 1842.

Currere per totum pavidi conclave, magisque
Exanimes trepidare, simul domus alta Molossis
Personuit canibus. Tum rusticus, &c.

Horace.

If "le diable boiteux" continue to take an interest in human perplexities and embroilments, he must enjoy a more than customary treat, while, hovering over the council chamber of the College of Surgeons, he surveys the condition to which the question of practitioner-examination has reduced the embarrassed twenty-one. The explicit letter of their late President being now in every practitioner's hand, and Dr. Hasting's avowal of its receipt for wide publication being by this time no less known, the secretary of the College is dunned each post by bagfulls of letters he dare not answer; the doors are besieged by clamorous thousands, who will not have promises made to the ear broken by any miserable word-jugglery to the hope, and there they sit—these select chieftains of an enlightened profession—each ill at ease with his neighbour, and scarcely less so to himself,—mutual dislike in its increasing intensity overcoming their power over the sad ceremony of their usual smile: all (save the sleek, fat, Cæsar-loving Anthony) hating and hoping, and fearing and distrusting, and fuming and frowning, and threatening—each conscious of bearing his share of corporate ridicule and embarrassment,—the majority internally asking with bated breath and humble reverence, what *are* our laws, and what our regulations? what means are there of knowing what we have done, and what not? what *is* the College of which we are called the heads? by whom is it managed? how, when, and where?—and nearly each feeling that somehow the machine has gone on without HIM! But their mutual vexations will not relieve them from their ludicrous embarassment: a decision must be come to on an important question which they themselves have raised, and, despite the contempt it may fling on their authority, that decision *must be* against themselves and their certificate system, and in favour of those to whose expectations they have in one way or another directly given origin.

How stand the facts of the case? About April last, by no small exertions, to which the president (at that time) of the College largely and, as he said, most successfully contributed, the Poor Law Commissioners introduced various changes in reference to the medical officerships of unions,—one of which was the exaction from all candidates for such posts, of a diploma, not only from a medical, but an *English surgical* source. It being immediately felt that this arrangement would exclude many *competent* practitioners, good, and even *examined* surgeons from situations which they had long held, or looked forward to,—it was suggested first, and among public journals *solely*, by ourselves, that the English College should give such gentlemen an opportunity of proving whether they possessed (without reference to certificates) such practical surgical knowledge, as would at once give them a fair title to membership in that institution, and a just claim to compete for a surgeonship in the public service. The Court of Examiners appear to have thought as we did; for in July they *were*, and for some time previously *had been*, admitting practitioners to examination on their merits practically, and without reference to the customary rules and regulations. *This is a fact*, not to be gainsaid; it is attested by a public document, and signed by the very best of authorities—the then president of the College, who shewed a great and very praiseworthy anxiety to have the fact made as publicly known as possible. Did the College, in thus admitting such practitioners, do so on public or private grounds? To say private grounds would be to convict it of the worst kind of misrule a public body is capable of; if on public grounds, what shall justify its non-extension of the same right now to individuals in precisely similar circumstances? We ask the question, and dare the College to give us the pretence of a reply.

The explanation, however, of all the recent fuss made by some worthy members of the council on this matter, is precisely this. So long as the admission of old practitioners could be made a subject of personal favour by the Court, and thus turned into means of increasing influence—not to say practice,—so long was the innovation patiently acquiesced in; but the moment that Mr. Guthrie's frank letter turned it from a vehicle of favouritism into a matter of general right and universal claim, that moment is a shew of resistance exhibited—a resistance, be it remarked, which, presenting the council as ignorant of their own minds individually and collectively, as without concert, harmony, or the least pretence of decent consistency or justice, makes them odious to one part of the profession and contemptible to the other! But to suppose, we repeat, that there will be more than a show of resistance would prove a sad suspiciousness on one side, or silly unprincipledness on the other; for it would suppose the twenty-one registering themselves not only as a most lawless and illegitimately governed set, but as men who with the solemn charge of protecting our Profession, sacrificed the happiness of a large portion of its members — not for private interest, which would be something, but for private whim and spite!

An humble contemporary—the "Gazette" of Wits' Bankrupts—lately contradicted our rumour (as it called it) on this subject, on what it declared "high authority." "*High* authority" varies in its meaning, according as the utterer recedes or approaches this or that level, and as our private correspondence suggests that such a contradiction was in fact ventured on, the day before the Gazette appeared, by *the porter of the College*, we are not disposed to dispute that, in the editor's opinion, his *assurance* was founded on "*high* authority;" certainly it was *high* enough to be far, very far *above* the truth. Clearly the College has been in the habit of making such admissions, and clearly the President in the most perspicuous language made such admissions a matter of universal claim to all practitioners in need of them. Our contemporary's authority therefore, however "high" physically, or relatively to the genteel editor himself, must be extremely "low" in the moral aspects of veracity and respectability. Of all liars, save us from the daring power of assertion of your *official liar*. From the Moniteur downwards there is no fact outside, aye or inside mathematics, though attested by a whole nation of witnesses, which one of these *hopeful* gentlemen will not coolly contradict on "the highest authority." If there be one character lower than this, it is the writer, who, in a silly desire to be *mistaken* for official, volunteers uninvited to do the same dirty work gratis!

To finish with something more useful than fly-crushing, there are two duties which cannot, we beg to impress on the Council of the College, be performed too soon. First, to let students know decisively whether they can or cannot be examined under the old regulation after January next; and secondly, as it is clear that practitioners are admissible by examination on their me-

rits practically, to make known how long this privilege is to lie open for their acceptance. On both points it belongs to the duty of a governing professional body to allow no mystery or misunderstanding. Inconvenience, embarrassment, perplexity, and loss, are a few of the necessary consequences of the doubts on these matters that now universally prevail. Apart from this, it is not seemly that no two members of the council can agree on what are, or what are not the regulations or intentions of the College. What Stanley, with lucky truth, declares nonsense, Guthrie, with equal veracity, calls a college practice; what the latter declares contemptible, the former insists on as a legitimate law. The other councellors shew a similar harmonious agreement; and their worthy secretary, when he ventures to rise above ignorance on any given subject of enquiry, is found to be at variance with all. This is *not* respectable; it exhibits that worst anomaly —a governing body ungoverned.

MESMERISM.

A CASE OF AMPUTATION DURING MESMERIC SLEEP.

On Tuesday evening a paper was read at the Medico Chirurgical Society, at their rooms in Berners-street, the joint production of Mr. Topham, a barrister, and Mr. Squires Ward, the surgeon, relative to amputation of the thigh during mesmeric sleep, at the district hospital of Nottingham. There was an unusual attendance of fellows, and visitors, and the crowd was so great that many were compelled to stand during the reading and discussion of the paper. Among the visitors announced from the chair were, Colonel Gurwood, Captain Valliant, Dr. Walsh, Dr. Binns, Mr. Denison, M.P., Dr. Allnutt, Dr. K. Grant, &c.; and, subsequently, the Marquis of Litchfield was introduced by Dr. Elliotson. Among the fellows present we noticed, Dr. James Johnson, Dr. Arnott, Sir James Clark, Dr. Marshall Hall, Dr. Elliotson, Dr. Syme, Dr. Bell, Dr. Moore, Dr. Williams, Dr. Forbes, Sir Benjamin Brodie, Mr. Liston, Mr. Bransby Cooper, Mr. Coulson, Mr. Alcock, &c. &c., and, in short, nearly every man of eminence or consideration in the profession in London.—The preliminary business of the Society having been concluded, the paper was read by the secretary. The first part, which was written by Mr. Topham, professed to propound no theory, but to detail facts; and went on to state that the patient, James Wombwell, an agricultural labourer, was first seen by him (the author) on the 21st of June last (we believe this was the date),—that he was then suffering great agony from an affection of the knee, which subsequently proved to be inflammation and absorption of the ligaments, with caries of the condyles of the femur and tibia,—that, after repeated attempts to mesmerise him, he fully succeeded—and that at length, in September last, he was thrown into mesmeric trance, when the operation of removing the thigh was performed by Mr. Squires Ward. To secure deeper sleep than usual, Mr. Topham placed his thumbs, or fingers, we forget which, on the balls of the eyes, and kept them there during the operation, the patient during the whole period of the process sleeping soundly, and only making a low moaning like that of a man in a troubled dream, when the bone was sawed. On being asked by Mr. Topham, after the operation, if he felt any pain while in the mesmeric trance, he replied, "No," but that he heard at one time something like "a crunching,"—this was when the bone was sawed. The second portion of the paper was strictly surgical; Mr. Ward describing very minutely the symptoms of the case, the previous treatment, the operation, and subsequent recovery of the patient; but as these points offer nothing remarkable—except that, from the position of the patient, he was compelled to make a third incision, which, in ordinary cases, would have caused increased pain, but, in this, did not affect the patient, and that the sciatic nerve was irritated without inducing pain,—we shall pass on to the discussion, which, we are bound to say, was conducted with more candour and moderation than we have generally generally among our medical brethren. We hail this as a good sign. Whatever may be said of the intolerance and illiberality of the profession, the time is passed when any professional man, however high in public estimation, dare attempt to check inquiry, or prevent discussion.

Mr. Coulson was the first to express an opinion to the effect that he regretted the reading of the paper,—we could not understand his reason.

Dr. Moore then wished that the paper had been accompanied by affidavits, as a paper like that required such documents.

Mr. Wood said, if any testimony were requisite, he begged to state that he assisted at the operation (we believe both Mr. Ward and Mr. Topham were present also), and that there were clergymen, laymen, and other surgeons, present; and, consequently, nothing could be easier than the production of such a document, if Dr. Moore insisted upon it—but for his part he saw no necessity for it.

Mr. Alcock was of opinion that the question was not, whether no sense of pain was expressed, but whether any pain was *felt*. He had performed many operations, and some patients—one even smoked his pipe during the operation—expressed little or no sense of pain. He was not, therefore, satisfied that the patient did *not* feel pain, though he did not express any.

Sir B. Brodie followed on the same side. He quoted the case of the sleeping boy, related by Dr. Oliver, of Bath, in the Phil. Trans., who suffered pins to be thrust under his finger-nails, was cupped, and otherwise tortured, without shewing any sign of pain. Sir Thomas Hardy, he said, scarcely knew what pain was; and he had himself, in performing an operation for femoral hernia, on a very illustrious individual, observed his total indifference, taking up the different instruments and examining them, and putting questions to him as to the progress of the operation, until he touched a branch of the ischiatic nerve, when he exclaimed, "You hurt me." He instanced some other cases, but we could not see in what way they bore upon that before the Society. He concurred, he said, with one of the gentlemen who had spoken, that this paper should not have been received by the council, or permitted to be read, as he himself was perfectly satisfied with the report of the French academy, and considered mesmerism a complete delusion.

Dr. Blake offered a few observations to the effect that a girl, named Ross, in the North London Hospital, had simulated mesmeric phenomena, and had subsequently admitted that she had simulated; and supposed this case was similar.

Mr. Bransby Cooper wished that some of the mesmerisers would tell the Society how its effects were produced, and what was its *modus operandi*?

Mr. Liston hoped the mesmerisers would tell them, also, something about people reading with their bellies and elbows (*ipsissima verba*.)

Dr. Syme explained, and said he had witnessed several cases of persons, in mesmeric trance, reading without using their visual apparatus.

Dr. Mayo was of opinion that there was something more than mere imagination, or indifference to pain, during the presence of what was called, mesmeric phenomena. He had, himself, thrust a pin, nearly up to the head, in the arm of the girl, Elizabeth Okey, when she could not have had the slightest knowledge of his intention, yet she evinced no pain. He then cited the case of Jules Cloquet, in which he removed a cancerous mamma during the mesmeric trance, without the patient feeling any pain. He was of opinion that there was something more in these phenomena than could be referred either to imagination or to stoicism.

Dr. Arnott seemed to argue that the evidence was inconclusive, because he was present at a case where, after fifty ounces of blood had been taken from the patient, she fainted, when a tumour was removed near the orbit of the eye, without her perceiving any pain. He thought the evidence inconclusive, but wished for further investigation.

Dr. James Johnson referred the whole to imagination, or stoicism. He was bound to believe the testimony of the gentlemen who had brought forward the case; but he would frankly add, *that he would not have believed it, had he seen it himself.*

Dr. Marshall Hall contended that the patient *must* have felt, or the other leg would have been convulsed.

After a few remarks from Captain Valliant, in which he described the operation performed upon his servant, in May last, by Dr. Charlton, of Chatham,* while she was in the mesmeric trance, without her being aware of it,

Dr. Elliotson explained, at some length, his views of the subject. He said he could not see the analogy between the cases cited by Sir B. Brodie, and that before the Society. In Sir Benjamin Brodie's case—the patient expressed suffering when the nerve was touched, whereas, in the present case, the nerve was irritated by the probe, yet the patient evinced no sign of suffering! Cases of insensibility to pain were not uncommon. There was a case reported in the *Lancet* for 1839, of a patient in the Edinburgh Infirmary, out of whose hands an attendant had actually *dug, with his nail*, portions of flesh while in an insensible state, without her feeling it,—but he did not see how it bore upon this case. In conclusion, the doctor said, that he was not satisfied with the report of the French Academy, and that he preferred nature for a guide. He was convinced of the truth and reality of the mesmeric phenomena, and should persevere, as he had hitherto done, in his researches in mesmerism in spite of ridicule, or whatever other weapons, might be brought against it or him.

The President (Dr. Williams) very briefly addressed the meeting, stating the reasons why the Council had brought forward the paper; and asserted that they were right, from the number of persons he at that moment saw before him. Prolonging the debate, however, any longer, might, in the eyes of those who blamed the Council, be only increasing the evil. He, therefore, would put a stop to it.

CASES OF PERITONEAL SECTION

FOR THE EXTIRPATION OF DISEASED OVARIA BY THE LARGE INCISION FROM STERNUM TO PUBES, SUCCESSFULLY TREATED, WITH OTHER CASES OF EXTIRPATION OF ANOMALOUS TUMOURS, &c. &c.

By CHARLES CLAY, Member of the Royal College of Physicians, London, of the College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence, &c. Piccadilly, Manchester.

(Continued from page 100.)

CASE THE THIRD.

I was consulted by Mrs. Dillon, who had been labouring for many years under an enormous enlargement of the abdominal regions. Hard to the touch without fluctuation, on testing it by percussion (except a little on the left side) the integuments appeared to be slightly moveable on the surface of the tumour, which, however, was so extremely large and filling so completely the abdominal cavity, with the smallest perceivable quantity of ascitic deposit, that I could not expect to find much mobility in the tumour, or of the integuments over it. She was in her forty-seventh year, still menstruating, never had any children, and had been married eight years; the tumour occupied more of the left, than the right side; she had a fall from a window about nine years ago, when she struck the left hip against the floor, but did not perceive anything remarkable for nearly two years after, when a tumour the size of a goose-egg appeared in the left iliac region, which did not appear to increase much till

* This case was reported in No. 144, Vol. 6.

about four years ago, from which, to the present, it had increased rapidly; she was now forty-five inches in circumference at the umbilical region, and at a rough guess, the tumour might probably weigh thirty-five pounds. She was subject to frequent very severe pains in her back and iliac regions, and had tried every means of relief proposed; about two years previously she was tapped, but only two pints of thick bloody fluid were extracted, affording her no relief; the solidity of the tumour appeared to offer no hope from tapping. In spite of every means tried by many excellent practitioners, she rapidly progressed for the worse, her life was truly miserable, and she was pressingly anxious to adopt any means, however slight the chance of success; convinced, that at most, her life under present circumstances could be but very short, and almost unbearable, she concluded an operation would only terminate it a few days sooner, if it did not succeed; she had been long unable to partake of solid food, and had often great difficulty in voiding urine; under these circumstances, she earnestly entreated me to attempt relief by operation, and from the success of previous cases, her anxiety for its adoption was extreme. In vain I argued that her case had not the same prospect of success as the others preceding her's, and that if it was performed, the chances were greatly against her; her importunities at length prevailed, and I somewhat reluctantly consented to operate. It was therefore decided to be on the 26th of October, at which time I was met by my friends Drs. Radford and Black, Mr. C. W. Vaudrey, Mr. G. Southam, Mr. Middleton, Mr. Holroyd, Mr. J. J. Southam, surgeons, and Mr. Winterbottom, a pupil. It was agreed by all present, that the case was not a promising one, and could only be justified by her importunities and miserable state of existence; at the time of operation too, the catamenia appeared, which might have afforded means of putting off the operation, but she informed me whilst undressing, she should suffer more from depression by the delay

OPERATION.

A bold incision was made, as in the previous cases, which was no sooner done than it was evident to every one present that to remove the mass was quite impracticable, the whole anterior surface of the tumour was adherent to the peritoneum, so much so, that there was not room in any place (except immediately above the pubis) for the flat end of the scalpel handle to enter between the peritoneum; in addition to this, the character of the tumour was evidently of a very different character to the generality of ovarian tumours; it appeared highly vascular, and though laid bare, we could not discover in it any fluctuation on percussion: a brief consultation was then held, when it was decided to make an attempt to lessen the tumour, if possible, before bringing the integuments together again, in which some difficulty was apprehended from its tenseness.

General Remarks.	Thirst	Flatus	Respiration	Motions	Urine	Shivering	Cough	Rambling	Pain	General Surface	Tongue	Sleep	Pulse	Temperature	Operation, Oct. 26th. 4 o'clock p.m. Temperature, 70—Pulse, 75—Urine, ℥viij—Motions, 1.
Respiration was a little short, but no more than before the operation, from the pressure of the tumour—Had an attack of syncope—Repeated one gr. mur. morphine.	None.	None.	Natural.	None.	None.	A little.	None.	None.	None.	A little cold	Moist.	None.	40—Feeble.	70	7 o'clock p.m.—3 hours after—By Mr. G. Southam.
Evidently rallied—Pulse rising—Ordered a gruel clyster, with Olei Ricini and Olei Terebinth.	None.	None.	Natural	None.	Drawn ℥viij.	None.	None.	None.	None.	Warm.	Moist.	20 Minutes.	80—Fuller.	72	10 o'clock—6 hours after—Dr Black and myself.
Clyster repeated — Diet — Gum water—Gruel of oat-meal—Panada.	Little.	Little.	Natural.	None.	Drawn ℥vi.	None.	None.	None.	None.	Moist and warm.	Moist.	1½ Hour.	80—Fuller.	70	5 o'clock a.m., 27th October—13 hours after.
Bled to ℥xii., when she felt sick—Diet continued.	Little.	Little.	Natural.	1 naturally, after clyster	Naturally, ℥x.	None.	None.	A little.	None.	Moist and warm.	Moist.	1 Hour.	110—Full	70	11 o'clock a.m., 19 hours after—with Dr. Radford.
Evidently much better — Cheerful, but disappointed that the mass was still there—Diet continued.	None.	None.	Natural.	One, naturally.	Naturally, ℥viij. ℥vi.	None.	None.	None.	None.	Moist and warm.	Moist.	2 Hours.	80—Soft.	70	5 o'clock p.m., 25 hours after.
The pain she felt was chiefly at the sutures; had none on pressure—Diet continued.	Little.	None.	tural.	One, naturally.	Naturally, ℥vi.	None.	None.	None.	Little.	Moist and warm.	Moist.	1 Hour.	86—Soft.	68	11 o'clock p.m., 31 hours after.
Bled to ℥x.—Felt sickly—Pain only in the line of sutures: none on pressure—Diet continued.	Little.	None.	Natural.	One, naturally.	Naturally, ℥xii.	None.	None.	None.	Little.	Warm.	Moist.	3 Hours.	96—Fuller.	68	10 o'clock a.m., 28th; 42 hours after—with Dr. Radford.
Had been more cheerful—Slept frequently soundly—Diet continued.	None.	None.	Natural.	Two, naturally.	Naturally, ℥viij.	None.	None.	one.	Very little.	Moist and warm.	Moist.	4 Hour's	80—Soft.	68	10 o'clock p.m., 54 hours after.
The pain was on the right side, and continued to one place—Dr. Radford suggested leeches, if it did not remove shortly—Diet as before.	None.	None.	Natural.	Two, naturally.	Naturally, ℥x. ℥viij.	None.	None.	None.	Little.	Moist and warm.	Moist.	Most of the night.	80—Soft.	70	10 o'clock a.m., 29th October, 66 hours after — with Dr. Radford.
The pain had left the side, so no leeches were applied—Pain only at sutures, and that a sort of smarting—Diet as before.	Little.	None.	Natural.	Two, naturally	Twice, ℥x. ℥viij.	None.	None.	None.	Little.	Moist and warm.	Moist.	3 or 4 Hours.	80—Soft.	70	10 o'clock p.m., 78 hours after.
Appeared much improved and cheerful—Diet as before.	None.	None.	Natural.	Two, naturally.	Twice, ℥x. ℥vi.	None.	None.	None.	Very little.	Moist and warm.	Moist.	Most of the night.	80—Soft.	68	10 o'clock a.m., 30th October, 90 hours after—with Dr. Radford.

The tumour was pierced in various places with a fine stiletto, when a jet of pure blood issued from each puncture; from this it was evident all attempts to lessen the tumour were useless, and I was reluctantly compelled to close the external wound without affording any effectual relief; the integuments were then brought together as usual, but using more sutures, as the mass beneath rendered it necessary; the parts were well secured by plaisters and bandages, and she was put to bed much depressed in her mind from the fact of its not being removed. One grain of mur morphine was given her. Pulse low and feeble.

At the termination of the fourth day that is, four o'clock P.M. on Sunday the 30th, the wound was examined, and was found adherent nearly its whole length, except about two or three inches just immediately above the pubes where adhesion had not taken place; some of the straps were removed, but no sutures cut out, and all the parts being well cleaned, the bandages were re-applied, during which, she felt little or no fatigue.

Monday morning eight o'clock, A.M.—Found her very comfortable, had slept moderately through the night, voided urine easily, had a motion, felt little or no pain except a kind of smarting along the wound. The husband requested to be allowed to give her a little gin-and-water, as she had been accustomed to take it for the wind with a clove of garlick. I distinctly told him the disastrous consequences that might follow such an attempt, and that on no account whatever must he for a single moment indulge in such an idea; on leaving the room, one of the females attending stated, that she had had much difficulty in dissuading him from giving it to her. Up to this time, the fifth day after the operation, the case had progressed as satisfactorily as could be expected, and even more so, when the nature of the case was considered; viz., an enormous malignant fungoid tumour, at least thirty pounds in weight, distending the abdominal parietes; secondly, the depressed state of the mind arising from the inability to remove the tumour, with the certain prospect of death very shortly, even though the wound might heal; these circumstances led her to indulge the wish to die rather than live. With all these disadvantages she had done well.

Monday evening four o'Clock being the termination of the fifth day, I was hastily summoned in consequence of a swelling accompanied with pain of the left leg, from the toes to the middle of the thigh, the pulse quick, feeble, and thready, still the tongue and general surface was moist and warm; no thirst; and had slept some hours during the day, as well as taken a fair portion of her simple food. It was impossible to reflect on the progress of the case as above stated, the sudden change for the worse without any premonitory symptoms, and the peculiar character of the present appearances, without suspecting some interference of the most unwarrantable description in the nursing, particularly when coupled with the wish to exhibit stimulants in the morning of that day. I did not hesitate in challenging her husband with the matter; he, as well as the attendants, denied having given her any of the gin, but neither so positively, nor so free from hesitation and confusion as to lead me to credit their statements. The leg had much the appearance of a case of phlegmasia dolens. Warm emollient fomentations were applied, and some relief from pain derived from them; the pulse, however, rapidly fell to indistinctness, and she expired in less than twelve hours from this inflammatory attack on the morning of the sixth day.

CONCLUDING OBSERVATIONS.

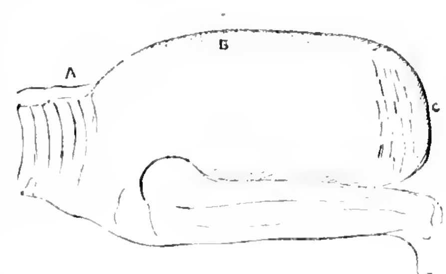
I now earnestly directed my efforts to obtain an inspection of the body; but this the husband very determinedly opposed; indeed, I fancied he imagined I should be able to detect what I had just reasons for suspecting, and what I learned two or three days after to be the fact, viz, that gin with garlick had been administered under an impression of expelling wind from the stomach. Unfortunately as this case terminated through the unwarrantable interference of the husband, against which he had been earnestly cautioned, yet it in no way disproves the legitimate principles of the operation. It will be impossible for any impartial person to scan over the record of this case without acknowledging, that with all the immense disadvantages of the case, there was every reason to hope a more favourable issue from the rapid and satisfactory progress it had made till within twelve hours of death. The case too, lived sufficiently long to prove the peritoneal section comparatively safe; the wound had in a great measure healed, and all the dreaded circumstances connected with an operation of such magnitude had in a great measure disappeared, and though the case must have soon terminated fatally of its own accord, yet I feel confident the progress of the first few days was so satisfactory, that had justice been done, the case might have lived for some time; *as it was, the case was decidedly successful as regards the effects of the wound and abdominal exposure.*

CASE THE FOURTH.

When I commenced the record of Mrs. Wheeler's case of peritoneal section, I had no thought of being so soon engaged in a second of the same nature; that, however, has taken place, and more successfully, if *possible*, than the first: such results naturally increase my opportunities. I have now a fourth case to record, with a prospect, at this moment, of at least four or five more. It is my intention to persevere in this operation until I have produced sufficient evidence to establish a legitimate operation of British (as it is already of Foreign) surgery, or until I discover enough to condemn it. In accomplishing this, I shall find much greater difficulty in overcoming the feeling of reluctance generally manifested by the profession towards any new and bold step (though supported by numerous proofs), than I should in meeting with condemnation for the unfortunate result of some one or two isolated cases, which in no way affects the principle of the operation, but affords arguments to those who are prejudiced against its being adopted as a legitimate means of relief. In this, however, I am not singular: Harvey met with the most virulent opposition for many years, to doctrines since acknowledged to be founded on truth. Jenner's discoveries were as strongly opposed, and as firmly admitted, subsequently. Cullen's views were attempted to be driven out of the pale of the professional enquirer by the numerous followers of Brown. For stepping beyond his colleagues, Liston had to seek shelter under other than his native skies. And, lastly, the very operation which I have had the honour to introduce to English surgery was used as a means to cry down the talents of that eminent surgeon, Lizars of Edinburgh; and the advocacy of similar means by the talented Blundell, brought the battery of the illiberal part of the profession against him. This is not a healthy condition of medical society in the British dominions. The vaunted liberality of the medical profession, from Hippocrates down to the present day, is more a matter of history and conjecture than reality. Men practising the profession, not content with the limited views just enough to enable them to make a living by their exertions, but putting forth their energies and endeavouring to improve the principles and practice of the science may, and ought to expect the envy of their professional brethren; but this should be entirely apart from an illiberal and uncharitable expression of feeling. In this our continental brethren are our superiors; the spirit of emulation is more generally encouraged; and the spirit of detraction less practised by them, combining together rather to assist the advancement of science than throw obstacles in the way of such advancement. These remarks may appear uncalled for; but this illiberality has already put forth its ugly head, in respect to myself: and it is necessary to apprise the professors of such principles, that every man who has the love of his profession at heart, looks upon them only as *incapables* or "*stand-stills*," as Dr. Blundell justly called them, "Men whose opinions will never reach posterity."

CASE of Hannah Edge.

Early History.—Hannah Edge, of Thornset, near New Mills, in Derbyshire, arrived in Manchester by coach from the former place on Wednesday the 2nd of November 1842, to consult me on her very remarkable case; and certainly, I was no little surprised at her appearance; she had the abdomen enormously enlarged, the umbilicus almost touching the knees. The following sketch will give some idea of this singular case:—



A, *the Sternum.*

B, *the Umbilicus.*

C, *Pendulous part of the Abdomen.*

From Sternum to Pubes, 38 *inches.*

Circumference at Umbilicus 51 *inches.*

When she sat on a chair she formed an inclined plane; and when she attempted to walk, the head and shoulders had to be pitched backwards to a very considerable degree, to maintain the centre of gravity, and her arms were used as balancing poles, after the manner of a tight rope dancer; the whole appearance was remarkable, and could only be exceeded by the singular ovarian case of tapping recorded in the MEDICAL TIMES, of October 1st. 1842, By S. S. Brame of Lowestoft, in Suffolk. Her age was 39, tall and emaciated; her health, however, had been generally good, and her family was also healthy; she had had three children. About seven years ago, immediately after the birth of the second child, she discovered a considerable enlargement of the lower part of the belly on the right side, about the size of a person four month's advanced in pregnancy; not feeling any particular uneasiness she did not take any medicine for it. Four years ago she was confined of her third child; she was very large at her confinement, and afterwards nearly as large as a person at the full period of pregnancy. She thinks the tumour might have existed before the birth of the second child, but did not notice it. After the birth of the third, she applied to different persons for relief, but medicine appeared to have no effect. She had been tapped four times; first time in two places, when twenty

pounds of fluid were extracted; second time, twenty-four pounds; third time twenty-eight pounds; making in the whole four tappings. She was so enormously large, that I called in my friend, Dr. Radford, to see her, who joined me in the strict investigation of her case. The parietes were extremely thin, and fluctuation felt equal throughout the whole surface; it was concluded to perform paracentesis abdominis on the following day, (November 3). Accordingly Dr. Radford, Mr. J. Southern, and myself, met, when I pierced the parietes on the right side about midway between the crest of the right ilium and the umbilicus; after about thirty pounds of a dark glairy fluid were taken away, when the fluid had ceased to run, a large globular tumour yet remained, the walls of which pressed against the end of the canula. I now placed my patient more on her side, (it must be observed hitherto she had been lying on her back,) and without taking out the canula, I introduced the spear, and pressed it inwards as far as possible; I penetrated the sac, and brought away thirty pounds more of a bright limpid fluid; I considered the first fluid evacuated was collected in the abdominal cavity viz. ascitic, although the character of the fluid was more that from cysts, whilst the latter thirty pounds which were evidently cystic, had quite the ascitic character. Dr. Radford supposed there were two separate cysts, or one large one, with a septem; but as I have seldom observed ovarian cases of long standing without ascitic deposit, I am still inclined to think the first fluid ascitic. She bore the operation of tapping remarkably well, and I felt a strong inclination to proceed with the operation of extirpation, but as the advanced time of the day and bad light interfered, the latter operation was deferred to Friday, (the 4th. of November,) at which time, being isolated from her friends, it was judged proper to defer it until her husband and friends had been sent for, and a statement of the prospects of the case had been made to them. This step was taken in consequence of the appearances which presented themselves after the sixty pounds of fluid had been drawn away. The flaccid integuments in closing the tumefied masses hung down between the legs; in the right iliac region was one tumour about two or three pounds in weight, and in the centre above the pubes another about two pounds weight; these tumours appeared to have a membranous connection with each other; higher up and nearly opposite the umbilicus on the left side, a small tumour appeared, which my medical friends considered another connection of the disease, (for my own part, I considered it more as thickened integumental matter, or some other organic enlargement independent of the ovarian disease,) probably the spleen not enlarged at all, but only rendered more apparent by the flaccid state of the integuments, and a little displaced from the previous distention. My medical friends Dr. Radford, Mr. W. C. Vandrey, Mr. G. Southam, Mr. Nursaw, all considered the adhesions very extensive, (and as there is much latitude for opinion in such obscure cases) I must confess I did not agree with them as to the extent of adhesions. It appeared to me when these gentlemen grasped the integuments that they included the walls of the cyst, which made parts of the tumour appear more adherent than they probably were; I was certain some adhesions did exist, but from observations on other cases, I felt convinced that where there were extensive deposits of water, the adhesions were likely to be of a less serious nature, and more easily separated than if the tumours were of a more solid nature, and I may here mention what appears to be a fact connected with ovarian disease, namely, the size of the solid part of the tumour is in inverse ratio to the quantity of fluid deposited. Thus in Wheeler's case, ascitic deposit seven pounds and a half, tumours eight pounds and a half, cystic deposit eight pounds and a half. Beswick's case, ascitic deposit twenty-five pounds, tumour five pounds, cystic deposit four pounds. In the present case, ascitic deposit thirty pounds, cystic deposit thirty pounds, tumour about three or four pounds. This of course arises from the breaking up of the solid into small, and the smaller into larger cysts. The peculiarities developed by this case fully justified my friends in requesting me to postpone the case, in order to make her friends aware that it was a case of great danger, and though no prospect presented itself for relief otherwise, and a rapid deposition again certain (it being only twelve weeks since she had been tapped before) so that her life would, in all probability, be very short, and accompanied with much incumbrance and misery; still it was the most prudent course not to operate, unless the patient and her relatives after being made aware of the full extent of the danger, were really determined it should be done. To this I reluctantly agreed (I say reluctantly) because it was with no other view she came to Manchester, and I dreaded the delay would create an alarm in her mind that would tell against her in the case when subsequently operated upon. Lastly, I esteemed it of consequence, to let one stage of irritation and inflammation answer for both tapping and extirpation. After this, her friends visited her, when with them she was determined to be operated upon, and accordingly the 8th. November was fixed at 12 o'clock A.M.

(To be continued.)

MEDICAL CHARITIES OF IRELAND.

(From the Dublin Monitor.)

We have just received a copy of the Bill for the Better Support and Regulation of Medical Charities in Ireland, brought in by Lord Eliot. At present we make no comment on its provisions, which put the Medical Charities on a thoroughly different footing from that contemplated by the late Government. We shall merely proceed to give a full account of the clauses, leaving to the profession the discussion of its merits, which to us appear very questionable.

Sections 1, 2—The Lord Lieutenant shall appoint, during his good pleasure, a Board of not less than five or more than seven physicians or surgeons, residing in Ireland, of ten years' standing at the least, to act under such regulations as his Lordship may prescribe, and to meet at such places as he may direct. The acts of the majority to be binding.

Sections, 3, 4, 5, 6—The Board, as soon as conveniently after its formation, shall report on the state of disease, and the number and description of every Medical Institution in the several Poor Law Unions; and shall make a like report every succeeding half year. They shall likewise, when required, report on the extent of Dispensary relief requisite in each Union, the number of Dispensaries which ought to be provided for the sick poor, and the amount of hospital accommodation for persons affected with fever. They are also empowered to make orders for the medical economy and management of these institutions, with the consent of the Lord Lieutenant.

Sections 7, 8, 9—His Lordship shall also appoint inspectors—not to exceed four—who have practised for seven years previous, to inspect under the direction and control of the Board. Their duty shall be to examine into the administration of all Medical Institutions—to ascertain the qualifications of the several officers who conduct them, to require returns of the annual income and expenditure of each institution—the number of patients relieved or treated, and the rules which regulate such institutions. The Poor Law Commissioners are authorised to make regulation orders, and carry the act into execution in all other respects; but their power is dismally interfered with.

Sections 10 to 16—Lord Lieutenant's warrant necessary to validate the orders of the Board and Poor Law Commissioners, both of which are to have official seals. Their general rules to be laid before Parliament. Commissioners may form dispensary and fever hospital districts, and either dissolve or alter them.

Sections 17 to 26—In every district for medical relief, governors shall be appointed. Poor Law Guardians, resident Magistrates, Protestant Rectors and Curates, Catholic Parish Priests, and Dissenting Ministers, as the case may be, to be *ex officio* Governors. When the number of *ex officio* Governors shall fall short of a number for which a blank is left, the rate payers to supply the deficiency who have been rated in the largest sums of money. Donations of £20 to constitute a Governor for life, and a subscription of £2 a Governor for one year. They shall meet at least once a week; but no meeting valid without five being present. No Governor to act except at meeting. Lord Lieutenant may remove them on inquiry.

Sections 27 to 32—Governors to appoint Medical Officers, whose duties the Poor Law Commissioners shall define, as well as the amount of their salaries, which are to be paid out of the poor rates. Medical men removable only by the Lord Lieutenant—non-medical by the Commissioners.

Sections 33 to 39—When any dispensary or fever hospital district is declared, all existing dispensaries and hospitals supported by contribution or Grand Jury grant, to vest in the new Governors; and on vesting, the power of all former, general, and local acts relating to them is to cease. Lord Lieutenant may order Governors to build dispensaries and hospitals, and direct their size and prescribe their plan. He may also order the Poor Law Guardians to furnish dispensaries, and provide all conveniences for the relief of the sick poor. The Grand Juries to present for them in the usual manner.

Sections 40 to 46—Register books for dispensaries and hospitals to be provided by the Commissioners, in which every case of relief shall be entered. Accounts of all expenses to be kept, and estimates of future expenses to be laid before the Board of Guardians every six months.

Sections 47 to 51—No person qualified as Medical Officer who has not obtained a license from the College of Physicians in Ireland, or a degree in medicine of some other College or University in Great Britain or Ireland. No person capable of acting as Apothecary without a license from the Apothecaries' Hall, or the Incorporated Society of Apothecaries in London. Lord Lieutenant may require Medical Officer to be qualified as Physician, Surgeon, and Apothecary, or any two of them, and also to have a certificate in Midwifery.

There is a saving clause for present medical men not duly qualified as Surgeons or Physicians. Such persons shall within three months after the district is declared, obtain a certificate from the Medical Board, of their fitness for the

office, and in default of obtaining it, they cease to be officers.

The remaining clauses, twenty-three in number, are of no public importance, being the usual statute stuffing about the competency of witnesses and certioraris, &c. &c. We have given the fullest analysis we could, and with the exception of the few first provisions, a more lumbering attempt at legislation we have rarely read. In its present shape, "if shape it can be called, which shape hath none," it is wholly unsatisfactory.

DISPROOF OF MR. HALE THOMSON'S ALLEGED SURGICAL IGNORANCE.

To the Editor of the 'Medical Times.'

SIR,—Your paper of November 12th contains some strictures on the professional characters of some of the medical officers of the Westminster Hospital. Among those referred to in that number is Mr. Hale Thomson, and reference is made to an instance of professional ignorance which he displayed in not knowing the os coccygis from the first phalanx of the thumb. An error of this kind would be glaring indeed had it occurred in the manner referred to; but this was not the case. I was a pupil at the Westminster School at the time this circumstance happened, and the true version is as follows.

Mr. Thomson's hour for *reading* his lecture was, if I mistake not, 5 P.M., and he had come into the theatre for the purpose of enlightening the minds of his pupils. the os coccygis lay on the ground, having fallen from the skeleton which hung close to the left of the table. Mr. Thomson saw the bone and picked it up, and scarcely looking at it, carelessly exclaimed, "A phalanx of the thumb, I believe." Now this is an error which might *almost* have been committed by any man, and therefore by Mr. Thomson.

Mr. *Deshon*—not *Deschamp*—did not purposely ask the question, for had this been the case there could have been no excuse for the learned gentleman's mistake; neither would the pupil referred to have simply stated to Mr. Guthrie, *when he met us on the subject of Mr. Thomson's mode of lecturing*, that Mr. Thomson "*did not know the os coccygis from the phalanx of the thumb;*" but would have added the fact alluded to in your number for the 12th of this month, by way of making his arguments for a change of teachers more powerful.

I have taken the liberty of sending you this communication because I love the truth, and if a public character commit a fault, let him have the full benefit of facts and truth; and though Mr. Thomson is no favourite of mine—as a teacher, as a surgeon, or as a private individual,—yet I would be the first to endeavour to do away with any erroneous impression which incorrect statements might produce.

I have the honor to remain, Sir,

Yours, obediently,

AN OLD WESTMINSTER PUPIL.

[This, inserted out of our love of fairness, is certainly *highly satisfactory!* Will Mr. Hale Thomson take a hint given in perfect disinterestedness, and resign a situation which to one with his acute sensibilities must be a constant source of disquiet, chagrin, and self-humiliation? For him assuredly the "post of honour" and even of *profit* is a private station. The pigmy if small on the pavement is smaller still on a column.—ED.]

SPONTANEOUS GENERATION.—M. Mandl has succeeded, by a microscope magnifying 250 diameters, in detecting the coloured eggs of entozoa in the lungs of frogs in which no trace of the entozoa themselves could be discerned. This, he observes, makes it very probable that these little ova, the diameter of which is scarcely more than four times that of the blood-corpuscle of the same animal, have been carried into the lungs either in respiration or by some other passage.

PHRENOLOGICAL SOCIETY.

A MEETING of this Society was held on Monday-evening last, at eight o'clock, in Exeter-hall. The secretary opened the proceedings by exhibiting the casts of two murderers' heads recently obtained. One was that of John Taylor, a farmer, aged 60, executed for the murder of a woman of abandoned character. Previously to his acquaintance with her, his character had been peaceable. Distressed circumstances and ill-treatment from her had led him to commit the deed. Cool Premeditation, Cruelty, Cunning, Amativeness, and Strong Sense of Property, formed the chief characteristics of his phrenological development. The other cast was that of Robert Knorr, aged 30. He had been parted from his wife six or seven times; they had lived very unhappily together; his habits were generally immoral and drunken. He attempted to murder his wife by stabbing her with a knife. He had had several wounds on the head, was flighty, and always extremely violent. Attachment appeared, from the cast, to have been the principal organ in his cranial development.

Dr. Elliotson now commenced a highly interesting lecture by exhibiting a cast of the head of Cooper, who was executed at the Old Bailey. He had learned several particulars from the best authority relative to this man. It would appear that he was rather free on the point of appropriation, but had so much caution as to commit his robberies always *alone*. This was farther shown by his selling the watches he took, uniformly to the Jews. He had never committed murder before, nor even attempted it; and when he did so, it was in supposed self-defence. He was extremely passionate, as indeed was evident by his manner on the trial, particularly towards the judge; also by his conduct both to the surgeon and attendants. On one occasion he had attempted to hang himself, and at other times had taken arsenic and laudanum, for the purposes of self-destruction. The Doctor was present when he was taken from the condemned cell. He had evidently made up his mind that it would be useless to attempt further violence. On the trial it was endeavoured to prove him insane, but without success. He had shown no signs of insanity whatever, from the moment he was taken. He continually associated with abandoned women, and was very fond of his mother, but often spoke harshly to her when subjected to her admonitions. When his father died he fainted away. The phrenological developments argued great cunning. His head was by no means so large as Courvoisier's. The Doctor then stated the comparative dimensions of the two heads—Cooper's skull showed Attachment and Love of Offspring. Veneration was wanting. Benevolence was large; this was, in fact, the redeeming quality of his nature, but it was lost amidst antagonist organs. He had never been known to have committed violence, before the circumstances under which he did so, and which were such as almost invincibly to induce it. Dr. Elliotson next proceeded to show from this particular cast, that a specific form of the head in the parietal region indicated Want of Scrupulousness, Extreme Caution, and Violence of Disposition. As to his insanity, that was doubtful; persons with such heads need not alarm themselves. Their might be many such in the present company; they required education, and that should be *early, sound*, and *permanent*. All should have the best use made of their organization. When good organs were found, less moral culture was demanded, when bad, more. Human laws were necessary; all dread punishment under its various forms, whether fine, imprisonment, privations, or loss of rights, &c. He would further observe, that the law had no right to punish by inflicting pain. Society should be improved and protected, and crime thus prevented. Prevent crime by culture; unfortunately, both poor and rich are badly educated; there is too much false glare and attraction. Honours are paid to those who have not deserved them, to warriors and others who have done no good but much mischief to society. He condemned capital punishments as useless, cruel, and unwarrantable. They did no good, but infinite harm. It was quite a mistaken notion to suppose that they deterred men from crime. In the Netherlands there were no capital punishments. He had visited their prisons, and in them all classes of criminals were allowed to mingle together. He could not conceive how any human being was justified in shortening for one moment the duration of human life—of the term allotted to man for preparation for a future state. He had been assured by a clergyman, who had much conversance with condemned criminals, that their penitence was rarely genuine; besides, the possibility of the conviction of an innocent man should deter from so extreme a course. Look at the rabble who attend to witness an execution. The sight was most disgusting, not only in England, but in France, and every where else. The effect of such exhibitions was to harden the mind and diminish the horror we naturally feel of destroying human life. It was not fair, not right, thus to demoralize society: other punishments might be resorted to. Every mind has some spark of virtue—you may find humanity in a den of robbers, and modesty even in a brothel. All have one grand and solemn object of attachment.—Dr. Elliotson next alluded to the various modes of torture practised in different ages and countries. Death by burning, the rack, mutilation, dungeons, cages, &c.; and said, that cruelty, whether it extended to the destruction of life or not, was not necessary to punish or prevent crimes. All might be affected by proper training. It is now well ascertained, that the head may alter its form by moral cultivation. There are certain limits beyond which the capability of increase or diminution cannot be carried, but that capability exists. As is the body generally, so also is the brain particularly. We know not before-hand how far we can go, how much is to be done, or how little. There is, however, a certain extent of improvement possible. Dr. Elliotson next adverted to the circumstance of the habits of the parent influencing those of the offspring in the lower animals—in sheep, in the Highland cattle, in terriers, woodcocks, bees, &c. He showed how much could be done by training in these—man being at the head of the animal kingdom, it were singular if he too were not susceptible of improvement. He concluded with an expression of a fervent hope, that mankind would devote more attention to the organic improvement of their species; and announced the next meeting of the society, for males only, again that day fortnight, at the same hour. About one-third of the audience consisted of ladies, who evinced considerable interest in the observation of the lecturer.

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*** The French works above announced, may be had through Dulau and Co., Soho Square.

PERISCOPE OF THE WEEK.

NERVES OF THE TONGUE.—Panizza's experiments on these nerves are confirmed by a case published in an Italian paper. A man 52 years old, after suffering for some time from wandering pains in his limbs, and being actively treated for them, was attacked by pain in the head and dulness of sensation in the left side of the face. The latter slowly extended over the right side also, and to the interior of the face, and ended in complete insensibility of every part supplied by the fifth nerves. Sight, hearing, and the sense of smell were unaffected. Many experiments were made to determine his power of taste; and it was found perfect for all sapid substances: he could distinguish the qualities of each article of food at his meals as well as he could when in health, and could discern the change and loss of savour which ensued when he kept them in his mouth. From the loss of common sensation, however, swallowing was difficult: he could not drink a large quantity at a time, and he was often choked in the attempt to swallow fluids. He was treated with electricity with slight temporary advantage. He died of intercurrent disease, but his body was not examined.

HYPOCHONDRIACAL OPHTHALMIA.—A middle aged man, subject to gout, rheumatism, and disorder of the abdominal organs complained of confusion of head. During the day and while in the act of walking he had frequent attacks of faintness, followed by general perspiration. He was sensible of a sudden spasmodic constriction of the right eye-ball, as if it were confined and pressed in the socket, accompanied by an actual twitching upward and downward of the upper eyelid. Objects appeared as if surrounded by a gauzy halo: the patient was unable to read, in consequence of the letters appearing to swim before him, writing was less difficult, although he was continually apt to carry the pen beyond the paper. The eye itself, beyond a slightly diminished activity of the lachrymal gland, betrayed nothing morbid. There were no objective symptoms; the patient's whole attention was engrossed by his disease, which he was disposed to consider by turns of a congestive, nervous, arthritico-metastatic, &c., origin: he sought eagerly the society and conversation of oculists; disconsolately anticipated the total loss of vision; the patient had, moreover, at a former period suffered from hypochondria, hence the belief that the affection was of an hypochondriacal or psychical origin.

INSECT ORIGIN OF SMALLPOX.—At the Institute, on the 4th of July, M. Serres mentioned the following fact, seeming to favor the hypothesis of animalcules in smallpox. By covering each pustule with a glass capsule, which is kept for some days in its place, he has seen the process of eruption either go on or languish, or be completely abortive, according as the glass was transparent or more or less opaque. This influence was evidently due to the contact of the air. The experiment, he adds, was not merely curious, for it led to a modification of some of the hygienic measures adopted in smallpox. Previously patients were generally placed in situations as well aired and lighted as possible; but now one knows that dark situations are far better for this kind of disease, and that this change alone is enough to ensure the most favourable progress of its evolution. The success at La Pitié was never more complete than during one year when all the patients with small-pox had, of necessity, to be put into a low, ill-aired, dark ward, a sort of cellar. The confluent cases there went on as favourably as was possible. At present, in the same hospital, they are moved from the first floor into the *rez-de chaussée*, and they do well there.—M. Serres took this occasion to mention that he had seen between 1700 and 1800 cases of smallpox in private and in hospital practice, and that he was certain that the number of those affected with smallpox after vaccination was not greater than that of those who had smallpox twice.—[A contemporary suggests that it may be the *light*, not the *good air*, which is favourable to insect development. May it not be both?]

THE PHYSIOLOGY OF THE SPLEEN.—The Spleen, is supposed by some, says, Dr. Benson, to prepare the blood for the liver, and by allowing it to stagnate there, to fit it better for the secretion of bile. Others think it is a sort of diverticulum for the blood going to the stomach; and that when the latter is full, and engaged in digestion, that then the blood is prevented from entering the spleen, and directed to the stomach. Tiedemann and Gmelin consider it an appendage to the lymphatic system —that it secretes a reddish fluid, which is carried to the thoracic duct, and increases the coagulating power of the chyle. Dr. Hargrave, concludes that its chief use is to receive the blood, as a temporary reservoir, or diverticulum, when any obstruction in the heart, lungs, or liver, renders it necessary that they should be relieved from the pressure of that fluid. The absence of valves in the splenic veins permits of regurgitation, and other circumstances render this opinion probable. He also conceives that it performs a similar office for the mucous membrane and the skin. When the blood is driven from these membranes by cold or rigors, it is received into the spleen for the time, and returned to the general circulation, as soon as the balance of the circulation is restored in these organs. Certainly the phenomena of intermittent fevers go far to support this opinion.—Sundry other uses have been assigned to the spleen. Soemmering gives an amusing catalogue of them. It was supposed to be—the seat of laughter; the cause of sleep; the seat of venereal excitement, from which the blood was directed to the genital organs; or that it gave origin to the semen in some way or other; that it formed the wax of the ears; that the serum which moistens the viscera exuded from its pores; that it formed the blood from the gastric fluid; that it absorbed and elaborated the nutritious juices from the intestines: that the nerves imbibed their nutritious juice from the spleen, and carried it to the blood to perfect that fluid; that it secreted some sort of acid, which was carried by the vasa brevia to the stomach, or by its own vein to the heart, to temper the alkaline nature of the chyle; that it concocted (coquere) some atrabiliary humour, which it transmitted to the liver by the vena portæ; that it was a sponge, to allow of the stagnation of the blood; that it secreted some fine humour to temper the bile: and that this was carried by the absorbents to their principal trunk, or by the veins to the liver, or by an excretory duct to the duodenum; that it was a sponge, possessing the power of sending the blood into the arteries or veins at pleasure (pro arbitrio;) that the globules of the blood were formed in it, being shaped in a kind of mould by the help of the absorbents; that it was merely to balance the liver by its bulk and weight; that it was of very little use; that it was of no use at all.—Soemmering's own opinion was that it prepared and fitted the blood for the secretion of bile. And Paley, in his beautiful remarks on the "Package" of the viscera, suggests that the spleen may be merely a *stuffing*, a soft cushion to fill up a hollow, which, unless occupied, would leave the package loose and unsteady. Perhaps, Soemmering, Paley, Tiedemann, and Hargrave are all, to a certain degree, right, and that the spleen, like the nose, the mouth, the urethra, and many other organs, serves more than one useful purpose in the economy. The fact that it has been removed in experiments on animals, and after accidents in men, without affecting the health, would prove that it has no function essential to life to perform, and renders it probable that it may be subservient to several less important, though doubtless, useful purposes. It does not appear that the spleen has any well-marked animal sensibility in its healthy state; neither does it show any contractility when stimuli are applied to it; but it possesses a power of expanding and contracting its texture, to receive and expel blood, in a very eminent degree, after the manner of erectile tissues.

PROPERTIES OF ARTERIES.—(*From a Correspondent.*)—The relation between the elastic and contractile properties of the arterial system, might have been argued from the influence which its different portions are known to exert on the circulation. In the large vessels, the object is not merely to adapt their capacity to the amount of blood contained, but also to render its successive progression continuous, and this may justly be considered as their most important function. It is obvious that a physical elasticity would suffice for such a purpose, and consequently this property should be the main feature of large arteries. We do not infer that elasticity, independently of a vital contractility, is calculated to resist the continued impulse of the circulation. Contractility thus comes to be a minor item in their character, and it is for this reason that so many physiologists have failed to detect it. Berzelius, Nysten, Bichat, Wedemeyer, and Muller, could not perceive the slightest contractions in the large arteries when excited either by powerful galvanic and electric stimuli, or by mechanical irritation; and yet, these vessels are possessed of a low degree of contractility, as already hinted, and as proved by the experiments of Hunter, Parry, and Williams. The reverse of this obtains in the small arteries, where the agency of contractility and not that of elasticity is required. That these vessels are endowed with considerable contractility is evinced in the experiments of Hales and Wedemeyer. From these remarks it may be deduced, that whilst elasticity is mainly characteristic of the large arteries, contractility is so of the small, and it is interesting to find that the respective structure of these vessels confirms such a conclusion. According to Heale, the inner portion of the external coat consists of pure *elastic tissue*, forming a layer of tolerable thickness in the large arteries, which *diminishes* in direct proportion to their size. And it has been long observed, that the middle or *contractile* coat *increases* relatively in size as the arteries decrease in calibre. This view of the subject is that taken by Hunter, and it is curious to remark, that his notion of the muscularity of arteries is abetted by the recent researches into their microscopic structure.

MEN WITH THREE TESTICLES.—Dr Macann, staff-surgeon now at Coventry, mentions the case of a recruit having with the two normal and fully developed testicles, a third occupying the right side of the scrotum, and in every way perfect as the other two. It was situated within the scrotum, between the groin and the proper testicle of this side, with which, however, it did not seem to be in immediate contact, but to be suspended, as it were, by a shorter cord, or hung up in a separate sac; in

fact, it seemed as if it had dropped from the abdomen after the other, but had not been permitted to fall so low in the scrotum as to touch it. In consequence of this arrangement the lower testicle was not at all pressed upon by the upper. On the left side the spermatic cord was perfectly natural in all respects, and was easily traced from the groin to the testicle to which it belonged. On the right side, however, the cord was much thicker than natural at its upper part, where, in fact, it consisted of two cords, one of which was distinctly traced into the upper testicle on this side, and the other, much longer into the lower testicle. In each of these parts, as well as in the cord on the left side, the vas deferens could be distinctly felt, like a piece of whipcord, between the fingers. Mr. Prankerd, of Langport, furnishes a second case perfectly similar, except in the fact, that the supernumerary body occupies the *left* side. Dr. Macann's case appears to have been congenital—Mr. Prankerd's however, has this singular explanation, as to cause:—Whilst a very young child, a nurse-maid had, in play, crushed the testicle with a pair of tongs and on recovery from the injury it was found that the testicle was divided, and has ever remained so since; gradually increasing in bulk with the growth of the person. In both men, there appears to have been great sexual vigour.

Quinine in Typhus.—At the instance of Signor Broqua, a medical practitioner at Piacenza, the sulphate of quinine has been used in frequent doses on patients suffering under typhus fever, in the Hopital Cochin, in Paris. The doses, administered by Broqua himself, were usually from one and a half to three grains hourly, during both day and night. In the French hospital they varied, in different cases, and at different periods of the disease, from fifteen to ninety grains in the twenty-four hours. M. Laurent presents in the "Archives Generales de la Medicine," for Sept. 1842, a summary notice of its effects, as observed in eleven cases treated at the Hopital Cochin; from which it appears that the most marked influence of the remedy was on the pulse, the frequency of which it uniformly diminished. Many unpleasant symptoms resulted d ur.ng its employment, such as a dry ness and heightened color of the tongue and fauces, which probably prevailed throughout a great part of the alimentary canal, being accompanied with intense and sometimes insatiable thirst; pain in the chest and epigastrium; abundant diarrhea, and occasionally bloody stools; frequent vomitings, which ceased on abandoning the use of the remedy; deafness and ringing in the ears, which did not invarably cease with the cessation of its employment, &c. Certainly, out of the above eleven cases in which the sulphate of quinine was tried at the Hopital Cochin, only one terminated unfavourably; but M. Lourent is, notwithstanding, by no means sanguine of having found in it a remedy for typhus superior to others; and, indeed, were it so, its expense would be urged as an insuperable bar to its general adoption.

Curious Researches in Phthisis.—Rayer asserts that he has ascertained the following facts respecting this disease. It is of ell chronic diseases that which is most common to man and animals. In man, and the other mammifera, the tuberculous matter is readily distinguished from recent pus; in birds its characteristics are less marked; and in lower animals still less so. Pus, however, in the mammifera, and especially in the horse, after a long persistence in certain organs, undergoes successive changes, in the course of which it sometimes assumes the aspect of tuberculous matter. The internal softening of tubercles is not attributable to inflammation; but their external softening is, on the contrary, most commonly by the inflammation of the adjacent tissues; and almost always the tubercular matter is mixed, in the latter case, with globules of pus. The calcareous concretions seen in the lungs of man and animals must not always be considered as tuberculous. They are often, in man and in the horse, the residue of purulent deposit. Phthisis is in our climate and in France, by far the most frequent chronic disease in animals the natives of distant countries. It attacks not only animals from warm, but others from cold climates, as the rein-deer, &c. It is comparatively rare, however, in the solidungula and caroaria; and the horse and dog are much more subject to cancer than phthisis. The bony disease presented by the monkey tribes, particularly those of South America, when suffering from phthisis, appears to be analogous to the deformities, swellings, and spongy softening of the bones in phthisical and scrofulous children. Similar diseased alterations are observed in the bones of carnivorous animals transported hither. Phthisis though hereditary, is seldom congenital, even in a rudimentary form. The seminal fluid of phthisical persons is remarkably destitute of animalculæ.

Preparation of the Lactate of Iron.—According to Pagenstecher, the lactate of lime, which is easily obtained from sour milk, and lactate of ammonia, may be employed to advantage in preparing the salt of iron. Common carbonate of ammonia of commerce is added to the solution of lactate of lime, the carbonate of lime removed by filtration, the liquid concentrated by evaporation at a gentle heat to the consistency of a syrup. This concentrated solution of the lactate of ammonia is mixed with six times its weight of alcohol of sp. gr. 0·879, and a concentrated aqueous so lution of protochloride of iron now added, the quantity of which is best determined from the lactate of lime used for the ammonia salt; for 100 parts of the lime salt, CaO, L + 36 aq, 38 parts protochloride of iron containing 16·48 iron. Soon after mixing the liquids the solution becomes turpid from the separation of the lactate of iron, which continues forming, and is completed within 24 to 36 hours. The mixture then presents the appearance of a white syrupy mass, resulting from the separated crystals of lactate of iron; it is freed from the liquid portion by straining and pressure, edulcorated with alcohol, strained and pressed again, and then dried, spread out in thin layers between folds of bibulous paper at a gentle heat. The preparation thus formed is a light crystalline powder of a whitish yellow colour and agreeable ferrous taste. To obtain it perfectly white it should be dried in vacuo over sulphuric acid. It may also be formed direct from the lactate of lime without first converting this into the ammonia salt; but the less solubility of that salt in alcohol, and the difficulty of freeing the preparation from adhering chloride of lime, renders the employment of the lactate of ammonia preferable. A slight residue of perchloride of iron, arising from an oxidation of the prootosalt, is moreover of no con equence in preparing according to the above method, as the lactate of the peroxide of iron is insoluble in alcohol.

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ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR, TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. SERRES, Member of the Institute, of the Academy of Medicine, Professor to the Museum of Natural History, Paris, &c., &c., &c.

Summary.—Relationship between Organogeny and Comparative Anatomy—Parasitical life of beings—Division of the organisms so much more marked as we descend in the scale of life—Various states of the organs in the course of their formation, repeated in a permanent manner by their analogues in the series of animals—Heart—Os Hyoides—Sternum — Superior Maxilla—Kidney.—Prostate. — Uterus.—Penis—Clitoris, &c.

In my previous observations, I have shown you the relationship which human embryogeny bears to comparative anatomy. In the organisms of the animal kingdom, we see produced upon a large scale, and in a permanent form, the various conditions traversed in so rapid a manner by the organisms of the human embryo. In the embryo, this passage is rapid, in consequence of the energy of its vital powers; while in the lower animals, organic life is comparatively feeble, and unable to traverse the course marked out for the human species. I will now enter more fully into this subject.

In the human species, we name the early part of the period which the product of conception passes in the uterus embryonic. This period is devoted to the formation and development of the organisms essential to extra-uterine life. These organisms formed, the product then takes the name of fœtus, which usually happens about the seventh month. Every living body is termed an embryo, which is developed by generation upon a body larger and of the same species as itself, to which it primarily adheres, but from which it becomes detached to pass from a communicated to a separate and peculiar state of existence. Thus, in its rigorous acceptation, embryogeny embraces only the duration of the parasitical life of a living body, during which those organisms essential to a free and independent existence are developed. The study of the formation of these organisms, that of the connecting media between the embryo and the parent, of the especial coverings which surround it, and of the temporary organs required during this borrowed life, constitute then the domain of this branch of science. Every one, however, must be aware, that life is not uniform throughout the animal kingdom. Very limited in some beings in whom the parasitical state never entirely ceases, it becomes, on the contrary, exceedingly complicated in others, especially in man, where it attains the highest degree of development. The parasitical life of the embryo undergoes the same variations: some being detached earlier than others from their parent, it necessarily results that in their subsequent life they retain the sum of organic developments which they had acquired at the moment of their separation.

Parasitical life being then devoted to the formation and development of organisms, it follows, as a general rule:—1st. That the number and perfection of the organisms of an animal will be in direct relation with the time employed in their formation, and consequently directly proportioned to the duration of their embryonic life:—2nd. That the more the organisms are limited and imperfect, the shorter will be the free and independent existence succeeding to the embryonic life of the animal;—3rd. That the shorter the independent life, the more rapid and numerous the reproduction of the animal;—Lastly, in some species, or even in entire classes of animals, life may be, and is, sometimes, carried on with organisms arrested at some period of development, proper only to embryonic life. The more we descend in the scale of life, the more imperfect we shall find the organisms: for nature strictly proportions her means according to the ends she has in view.

As a general law, we find that as we descend from man among the vertebrata and invertebrata, the organisms become proportionally disassociated or simplified; so that on arriving at the bottom of the animal scale, we find them reduced to their most simple outline or elementary form. Another law not less general is the following: if we trace the development of a complicated organism in the superior vertebrata or in man, we find that it commences by a state of remarkable simplicity, but that each of the transformations which it undergoes complicates it more and more, until it arrives at the normal state which ultimately characterizes it. This is not all; for if we compare the organology of the inferior animals with the first stages of the organogeny of the superior vertebrata, we find that the primary outline of the organisms corresponds in both cases. So that, the organisms of the human embryo in the course of their development traverse successively the states presented by the same organisms in the families, genera and classes composing the animal kingdom. Considered in this point of view, the animal series is but a repetition of the embryonic transformations; the one is the reproduction of the other. We now, however, come to more particular facts.

Let us take the heart as a first example: very complicated in man, the mammifera and birds, this organ becomes gradually more simple in reptiles, fishes, the crustacea, the mollusca, the annelida and insects. In each of these steps it loses, either a portion of its elements, or a part of its muscular structure, becoming in insects and the annelida a simple straight or curved canal. So also with the young embryo, the heart commences under the form of a canal, at first almost straight, then curved, thus in form and structure corresponding exactly with the heart of insects, the annelida, and some crustacea. At the second stage of formation, the auricles become added to this canal, producing three distinct cavities; a ventricle in the middle, and two auricles placed upon the sides and at a distance, exactly in the same manner, as in the heart of the acephalous mollusca; then the two auricles are brought into contact; in the embryo of the bird these two sacs are united into one; so that we have a larger ventricle, and a single auricle still more developed. A condition exactly similar is found in the cephaloid mollusca. These two stages of formation of the heart in the vertebrata represent then in a transient manner the permanent condition of this organ in invertebrated animals. But, as we know, this viscus is not arrested at this state in the superior animals; in the course of its developments, the single pouch of the auricles becomes divided into two cavities by the interposition of a central partition; and this partition, according as it is more or less complete, represents that of certain fish, and some reptiles, as the tortoise, &c. Lastly the ventricle in its turn becomes divided into two by the same mechanism as the auricles; and that stage where the ventricular partition is not perfectly closed in birds and the mammifera, is an exact repetition of the permanent arrangement of the ventricles in the snake tribe, especially the adder. We may remark, that in the embryogeny of the superior vertebrata, as well as in the anatomical scale of fishes, reptiles, and the invertebrata, the development of the auricles generally precedes that of the ventricles. Thus are the various stages of formation of the fœtal heart an exact repetition of its permanent conditions in comparative anatomy. The same may be said of the blood-vessels. For at the periods when the heart represents a mere canal, all the blood-vessels of the embryo are venous, the same as in the annelida and most acephalous mollusca. The arteries do not acquire the structure which distinguishes them from the veins, in the embryo of vertebrated animals, till the muscular coat of the left ventricle is perfectly formed. The same is observed in the cephaloid mollusca and crustacea.

We see, then, that when an organism is found in a divided state in the human embryo, we may be certain of meeting with it in a similar condition in some animals arrived at the term of their development. The multitude of pieces of bone in the cranium of fishes, compared with the number of points of ossification in the fœtal cranium, is one of the most striking examples of this general law of organogeny. We find a similar confirmation of it in the separate pieces of which the sternum is composed in certain mammifera, in reptiles and fishes. These permanently isolated portions are represented by the primitive nuclei, so perfectly distinct, of which the human sternum is composed from the second to the fifth month of intra-uterine life. The same may be said of the os hyoides.

In the adult man, the superior maxilla is a single bone forming, as we know, the greater part of the face, and incasing the organ of smell and part of that of taste. These senses being limited in the human species, the bone which protects them is also limited; it is simple and undivided. But in proportion as we descend from man, these senses increasing in capacity and extent, the protecting bone is extended with them: but while expanding it is divided; its constituent materials are isolated. The first isolation, or fractional state, found in the human embryo, is that of the incisor bone of the herbivora and ruminantia. This osseous element is so distinct in animals, it stands out so prominently from the rest of the bone, that unable to refuse considering it as a distinct piece, according to the views of Camper, who considered its absence the characteristic of man, anatomists directed their attention towards discovering it in the human embryo; in this they soon succeeded, for the traces of its division sometimes remain even beyond birth. This fact, placed beyond all doubt, by Goethe and Vicq-d-Azyr, serves to explain the formation of one portion of the alveola. But, independently of the other cavities contained in its substance, this bone presents a hole for the passages of the sub-orbitar nerve and artery. These cavities requiring for their formation a large number of pieces of bone, I endeavoured to discover them in the young embryo; now, from the third to the fourth month of conception, I constantly found in the human embryo five distinct pieces subsequently uniting to form the superior maxilla. M. Geoffroy Saint-Hilaire also, in examining the head of the crocodile, ascertained in these reptiles the permanent division of these five pieces. The crocodile then represents permanently the condition offered by the embryo at the third month in reference to this bone. We have before said, that in the human embryo, the kidney, which in the adult forms a single organ, is in its original state a mul-

tiple or many-lobed viscus. I have sometimes seen it formed of eight, more frequently of six, or of four small kidneys on each side. Every anatomist must have seen this arrangement, which is the primitive or normal state of the organ. Now, in descending from man to the animal kingdom, we shall find this transient condition of the embryo presented in a permanent manner by the various species of adult mammifera; thus in the elephant the kidney consists of four lobes, in the ox of twelve or fourteen, in the otter of two, and generally speaking of two also in the feline tribe, as well as in most birds. The organogeny of the human embryo is then but a transient comparative anatomy, presenting to us in a successive manner the permanent conditions of the lower orders of animals. It was for a long time a debated point whether the *thyroid gland*, was a single or a compound body. Without the intervention of organogeny, this dispute might have been interminable. For, as Haller first observed, this gland, simple in the adult, is constantly double in the young embryo, the right being perfectly separated from the left, and their union not being accomplished till an advanced period of embryonic life, in a similar way to what sometimes takes place with the sublingual glands, the amygdalæ at the root of the tongue, and the two kidneys in front of the aorta. The prostate again, although of a distinctly lobular appearance, presents, in the adult, a body of a uniform and connected aspect; in the embryo, on the contrary, it is composed of four distinct and isolated lobes. Towards the fourth or fifth month, the two inner lobes become united, and the prostate then seems to be composed of three lobes only. Later still, that is to say, between the sixth and eighth months, these three lobes become intimately united one with another, forming, like the kidney, a single organ, but in which we may, by careful dissection, discover the traces of its primitive organization.—The same may be said of the uterus, which in the carnivora and herbivora, presents manifest traces of division, and which in some species of animals, as the *cavia* of Gmelin, and especially the hare, is composed of two distinct organs, opening separately into the vagina. So in the human embryo between the second and third month, this viscus is formed of two distinct cavities; thus passing through the organization of the lower animals before reaching its ultimate state of unity in the adult female. We here see a striking resemblance between the uterus, the prostate and the thyroid; a powerful argument in favour of the analogy of these three parts.

We know that the primitive homogenety of the two sexes is one of the most curious discoveries of embryogeny. Originally there is neither male nor female; at a second stage, all are apparently females (I say apparently); then the organs, seemingly female, transform themselves into male organs. All females, at a certain period of their formation, have then the appearance of being hermaphrodites, and at a certain period also we might without careful examination mistake males for females. These latter appearances manifest themselves in the human embryo toward the end of the second or the beginning of the third month, and in the ox, the sheep, the dog, and the cat, at the first third of their formation. This disguise in the sexes arises from the constancy in the mechanism of their formation. At first projecting forwards, the genital organs are not enclosed in the pelvis. The clitoris and the penis form a very marked projection below the rudimentary abdomen. The clitoris and vagina, at first divided along their entire length, become united in front, and present an enlargement at their summit, which is also divided upon its inner surface. Below this body, we find the skin bifid presenting two small folds; the internal, proceeding towards the root of the enlargement which terminates the body from whence the clitoris or penis arise; the external, enclosing the latter organs within its folds. The first of these folds ultimately constitutes the nymphæ in the female and the prepuce in the male; the external gives birth to the labia majora and the scrotum. On separating the first fold, we see a small opening, which is the external orifice of the urethra, equally distinct, at this period, from the extremity of the clitoris and from the glans. In a female embryo of four weeks I could discover no vaginal opening. When the pelvis is united in front, it forms a very projecting angle, from the branches or rami of which arise the crura, which by their junction constitute the clitoris and penis. The more acute this angle, the more the genital organs project outwards, and it is at this period especially, that is to say from the fortieth to the fiftieth day of embryonic life, that these little beings would all be taken for males, if we considered only the external appearance of the genital organs; as, in like manner, at the commencement of the second month they might all be mistaken for females, when the cutaneous folds, from which the scrotum and labia majora are to arise, have not become entirely united in the male. Now, this embryonic similitude is found in an exact state of repetition in many adult animals. The volume of the clitoris, says M. Geoffroy Saint Hilaire, equals that of the penis in several species, even among apes, and the resemblance is so great, that females are often taken for males. In some species the glans penis, as well as the clitoris, is bifurcated. The rabbit is remarkable in this respect; in it the penis is an exact repetition of that of the embryo between the fourth and fifth week, in the same way that the cornua of its uterus are a striking copy of that of the human embryo from the fortieth to the fiftieth day.

In the commencement, the uterus of the young embryo represents two small tubes drawn near together, but not united one to another. In the second stage, the two vaginal extremities of these tubes are joined, though not intimately. In the third, they are incorporated and intermingled. The neck of the uterus, previously double, becomes unique; but at the same time that this union takes place in front, a separation of the remainder of each tube is accomplished posteriorly; and which produces the uterine cornua. At the fourth stage, the incorporation which has taken place between the two necks is prolonged behind, and the formation of the body of the organ begins. This body, unique in front, is still double behind, from the persistence of the remains of the two tubes entering into the formation of the uterus. Lastly, at the fifth stage, these tubular remains, becoming united like the rest of the body, give rise by their association to a simple uterine body. Let us now apply these principles of human organogeny to the comparative anatomy of this organ. The uterus, properly so called, exists only in the mammifera; its form and character are, however, very variable in the different classes of animals. I have shown that the varieties in form of the fœtal uterus are dependent on the original separation of this organ into two parts, and on the various stages through which it passes before reaching its ultimate state of unity. We will now see whether we cannot trace a resemblance in the animal kingdom; whether we shall not find in the uterine forms of the mammiferæ, the various stages of formation traversed by this organ in the human embryo. The first stage of uterogeny is represented by the *monotremata*, in which the uterus, properly speaking, is absent. Their oviducts terminate in two dilatations, completely separated one from the other, and opening in a species of *cloaca*. The *echidnus* and *ornithorhinchus* are, in this respect, intermediate between birds and the mammifera. The second stage is shown in the *marsupialia*. The dilatations of the inferior extremity of the tubes in this class of animals, instead of remaining separate, as in the *monotremata*, are brought into immediate contact, in the same manner as in the frog; they are not, however, united into a single organ: the uterine body, as well as the vagina, is divided by a central partition into two separate cavities, producing, as it were, two sets of genital organs. The same may be observed in the kangaroo, and, occasionally, according to Tiedemann, in human monstrosities. The third stage of uterogeny is characterized by unity of the vagina and plurality of the uterine opening by distinct orifices. This is the case with most of the rosores—the hare, the rabbit, the beaver, the rat, the mouse, the guinea pig. This condition has been met with by Morand, Dupuytren, and Tiedemann, in the human race. These stages, as I have said, may all be traced in the early formation of the human embryo. Let us, however, follow the conversion of these two uteri into a single organ, bearing in mind that, in the human race, this takes place from before backwards, or from the neck towards the fundus of the organ. Now, a course of development exactly similar is found in the mammifera. In the carnivora, some rosores, the cetacea, &c., the unity of the uterus has already commenced; but the neck, properly so called, is not fully developed; the uterine cornua are still distinct posteriorly, being sometimes straight, as in the dog and the cat, sometimes bent or curved back, as in the mole and the hedge-hog. In the ruminantia, the neck is much more developed posteriorly, and a small but perfect cavity is formed, communicating with the two cornua which are strongly curved backwards. These two processes show, in some measure, a tendency to union in certain cases of gestation; for when there are two ova, one in each cavity, a part of their membranes is carried along the neck, from one cornu to the other.

Up to this point the body of the uterus is double in the strict acceptation of the word. But in the *solipedes* we have a partial unity in the body. Here we have a single uterine cavity constituting about two-thirds of the uterus; but the posterior third is still double. These remnants of the uterine cornua have, however, lost the active share which they previously enjoyed in the act of gestation. They no longer receive the ovum; gestation is entirely carried on in the uterine cavity. In some of the monkey tribe again, the form of the uterus is still more approached to that of the human species; but its axis is more longitudinal, and its fundus less rounded and concentrated than in woman.

PRIVATE COURSE OF OPERATIVE SURGERY.

By J. NOTTINGHAM, Esq., Member of the Royal College of Surgeons of London.

LECTURE V.

Before, during, and after the performance of surgical operations, means are employed for limiting as much as possible the quantity of blood lost by the patient. Before operations, as well as during the time of their performance, we avail ourselves of pressure on the arterial trunks to prevent a dangerous effusion of the vital fluid immediately after the knife has been employed; the larger arteries which have been divided are secured by ligatures, before the edges of the wound are approximated; we afterwards trust to position, temperature, and quiet, &c.; each of which may be made to tell favourably on the circulation, and to share the work of preventing hæmorrhage. In the modern practice of surgery, the arresting of hæmorrhage by the actual or potential cautery, or by styptic drugs, is seldom had recourse to; and when we see a surgeon arm himself with such weapons, we are apt to think that he suspects the efficiency of his better resources, or that he is not *au niveau* with the present state of chirurgical art. Before the period when the circulation of the blood began to be generally understood, surgeons must have experienced great difficulties in the arresting or preventing of hæmorrhage; and the history of the surgical department of the healing art contains records of many appalling practices employed to stop dangerous bleeding, such as plunging the stump after amputation into boiling pitch, searing its sensitive surface with the hot iron, or applying strong acids or other corrosive substances to it.

The progress of anatomical and physiological knowledge, the invention of the tourniquet, and the study of the true scientific means of restraining hæmorrhage have long since driven all such horrid practices out of sight, and their record only tends to show how many and how varied the degrees of progress in any art must be, before it arrive at a state approaching that to which the term perfection can be applied.

In amputations of the extremities, with the exception of the smaller operations about the hands and feet, the main artery of the limb is compressed against the nearest bony surface, by the fingers of an assistant, sometimes aided by a pad of some material, which may be easily thrust down upon

the arterial trunk, or with the aid of a tourniquet to encircle the limb, or of some other apparatus more or less analogous in its effects, such as the compressor of Dupuytren, or the Italian tourniquet, or jointed bow of steel, which some of the English instrument makers have supplied us with of late. There is, doubtless, some disadvantage about every apparatus here alluded to, and if the assistant of the surgeon could be relied upon, and his strength were not likely to fail him, there is little doubt but his fingers would, upon the whole, be better than any tourniquet or compressor; for they occupy less space, and are not so much in the way of the operator, and do not interfere with the retraction of the divided parts, complaints which are brought against the tourniquet; nevertheless, it is not so easy to get the end of the fingers nicely laid over the course of the artery in some cases, as might at first be supposed, and every one who has acted as assistant on any occasion, and has compressed the femoral artery with his fingers during an amputation of the lower extremity, knows how fatiguing this effort soon becomes, and has wished, I would venture to say, that the tourniquet were there instead of his fingers, whether the surgeon would like it or no. On all occasions, the tourniquet should be present, whether employed or no may depend upon circumstances, and, by the tourniquet, is to be understood, the instrument commonly known by that name, for which various substitutes may be found if occasion require. In any case of alarming haemorrhage where the tourniquet is not at hand, the turn-stick which may easily be made, supplies its place very well; a pad, piece of leather for the tape to pass through, the tape and stick being all that is required; and these might readily be made out of some article or other to be found in every man's abode.

For very obvious reasons, the application of the tourniquet is confined to the extremities; compression of arteries by it within the trunk being impossible, as also of those in the neck, because of the parts with which they are associated, and of their wanting bony support sufficient for this purpose. We need not here do more than allude to the attempts at compressing the aorta through the abdominal parieties, as in cases of uterine haemorrhage, &c.; as these matters do not belong to the subject with which we are occupied.

Arterial branches outside the skull occasionally require to be compressed to arrest haemorrhage, or with the hope of curing aneurismal tumours, their vicinity to the bone facilitating this mode of treatment; this, however, will be afterwards alluded to. We may now proceed to notice the different applications of the tourniquet, and of pressure applied by other means in cases of amputation of the extremities. The great arterial trunk of the lower extremity may be compressed; 1st. against the body of the pubes—by the fingers of an assistant, with or without the aid of some pad or instrument, such as the bow of a key covered with lint to assist the effort we have to make. 2ndly, against the upper and inner part of the thigh bone; and, 3rdly, against the lower and back part of the thigh bone, or in the popliteal space with the aid of the tourniquet; either of the two latter modes will suffice in amputation of the leg, the first or the second must be chosen in amputation of the thigh.

Before the application of the tourniquet, many surgeons pass a of piece linen around the limb,—to prevent the tightened-strap doing any injury to the corresponding portion of integument,—the plan, however, adopted by Professor Ferguson, seems to be at once the neatest and most convenient,—using a small calico roller for a pad, and turning the free end of it once or twice round the limb, and then leaving the roller over the situation of the vessel, to be afterwards pressed home upon it by the tightened belt of the tourniquet. Before the tourniquet is applied, the girth should be sufficiently drawn out, and the buckle along with it, lest in tightening the instrument the buckle come in the way. It would seem scarcely necessary to offer any particular directions regarding the mode of applying the tourniquet, its application will be found easy to every one who has studied its mechanism; but a little care should be taken that the instrument is in perfectly good order before it be applied, and that the strap be sufficiently strong to resist the utmost turning of the screw without danger of breaking. In applying the tourniquet to the upper part of the thigh, the instrument may be outside the limb, the roller or pad of course inside, or over the artery, the buckle in front of the limb, or between the other two, and the same arrangement of the parts of the tourniquet may obtain in applying it to the upper part of the humeral artery; in its application in the popliteal space, which is well suited to cases of amputation of the leg, especially where it is desirable that very little blood shall be lost; the tourniquet may be in front, above the patella, the roller (here required to be thicker) behind, the buckle outside the limb. After the instrument is applied it is to be tightened gradually, until pulsation can no longer be felt on the arterial branches below; after which any additional pressure is unnecessary. If the tourniquet be applied as far as possible from the seat of the operation, it is less in the way of the manœuvres of the surgeon, or of the retraction of the integument, so that as a general rule, it is better to take advantage of these conditions, than to seek the saving of a very small quantity of blood by applying it very near to the parts to be divided.

After the removal of a portion of a limb by amputation, the divided arterial trunks cannot always be readily detected, and it may be requisite that the assistant should lessen his pressure, or gently slacken the tourniquet, so as to afford the surgeon an opportunity of seeing clearly the divided vessels whence the arterial jets come forth; a very slight turn of the screw will often suffice, and greater slackening of the hold should be avoided until the divided vessels are secured by ligature, when the tourniquet should be immediately made quite loose, although its strap may be left encircling the limb, the instrument itself lying near, ready to be employed in case of accident, such as secondary haemorrhage, &c. In the axilla, the axillary artery may be easily and effectually compressed against the head of the humerus, either with the ends of the four fingers alone, or aided by a suitable pad; and here it may be well to recollect that the artery is situated at the union of the anterior with the middle third of the axillary space; in the groin, as before-mentioned, the commencement of the femoral artery may be compressed against the body of the pubes, the fingers, or the fingers and pad being employed, as in the other case, and if we notice carefully the form and position of that part of the bone immediately above the thyroid foramen, we shall at once perceive that the right direction of the pressure to be exerted here is downwards, backwards and inwards. In amputation at the hip or shoulder joint, the femoral and axillary artery are compressed by an assistant, who introducing his fingers into the wound, seizes these vessels before their division by the knife of the surgeon.

Having briefly noticed the mode of compressing the arterial trunks of the upper and lower extremities, chiefly in connection with amputation, we proceed to state the method of compressing other arteries, such as may now and then be required in various cases of disease or injury. On account of the vicinity of the larynx and trachea, we seldom attempt to compress the primitive carotid; this, however, may be done, particularly at its upper part, by pressing the vessel against the corresponding portion of the cervical spine.

The facial artery, or external maxillary, at the anterior border of the masseter muscle, may be compressed, perhaps, more easily than any other in the body, one finger sufficing to press the vessel against the corresponding portion of the lower jaw; and the temporal may be compressed in the same way, in front of the external ear. We need not offer any remarks on the compression of other small arteries of the same region; for if a wound on the head be attended by troublesome bleeding, compression of the wound itself, on account of the smallness of the arteries and their anastomoses, is better than an ineffectual attempt to find the chief arterial source of the haemorrhage. With the aid of a common door-key, the bow or handle wrapped with lint, I have compressed the subclavian artery on the first rib, during amputation of the arm, near to the axilla; this, however, is a doubtful sort of proceeding, the motions of the clavicle and shoulder disturbing, with every writhing effort of the patient, the repose of the part where the pressure is exerted. The axillary artery may be compressed by the fingers, as before remarked against the head of the humerus—and it has also been proposed, by Dahl, to compress it below the clavicle on the second or third rib; in this situation, however, it is so thickly covered by muscle, that such compression can scarcely be effected by the fingers, and Dahl contrived a peculiar tourniquet for the purpose, which, however, has never been employed. The brachial artery may be compressed against the humerus, recollecting its course on the inner border of the biceps muscle, corresponding, as it were, to the course of the seam in the coat-sleeve. Where the pulse is generally felt, the radial artery may readily be compressed against the bone,—the ulnar in the same manner, in the lower third of the fore-arm, between the tendons of the flexor sublimis and flexor carpi ulnaris; but this compression, like that of the radial artery, is seldom employed. The digital arteries are readily compressed at the line of union of the inner and anterior aspects of the fingers. I have known life to be lost by wounds of the iliac arteries, and also by wound of the internal mammary; so that, to be able to command, more or less, the arterial system of the trunk of the body, is an acquisition to be desired by the surgeon. It is not long ago that a man, in Liverpool, lost his life by being stabbed in the groin, the iliac artery being wounded. In such cases, death has often taken place before the surgeon could possibly arrive by the side of the sufferer; if in time, compression of the aorta may be attempted in the neighbourhood of the umbilicus, first bending the body forward, and relaxing the abdominal muscles—the ends of the fingers being employed alone, or they may be aided by a suitable compressor; in this way the aorta may be compressed against the lumbar vertebrae; and it may be added, in cases of uterine haemorrhage, this plan appears on some occasions to have been attended with considerable success; but in haemorrhage occurring after labour, the womb itself may be compressed through the abdominal parieties, and the bleeding appears occasionally to be in this way arrested. In a case which came under my observation some few years ago, serious haemorrhage took place from the internal mammary artery into the cavity of the pleura. The sufferer, a young man, had been struck on the chest by a fellow-workmen with a chisel; the cartilage of the third rib was divided by the blow, the artery behind it cut across, and the cavity of the pleura opened. Such cases rarely occur; but should we meet with a similar one, and have reason to think that dangerous haemorrhage was going on, it appears to me possible to stop it; but how this could best be done is the question: supposing, then, that the application of cold produced no effect, could we introduce a pair of strong, curved, and good biting forceps through the wound, and so lacerate the divided ends of artery, and finishing each portion with a little torsion, in this way stop the bleeding? or could we not employ an instrument, shaped like a double key, or with wards on both sides; to use a homely comparison, resembling the little instrument with which cooks raise the kitchen grate; for supposing the wound to be large, as it was in the case alluded to, such an instrument even covered with a little lint, might be introduced into the pleural cavity, by way of the wound, turned, and then withdrawn, until the divided vessel underwent the requisite compression? The ligature *en masse* might be applied above and below the wound, dividing the integument in the direction of the artery, perforating with a sharp probe the pleura (previously injured by the wound), inside the artery, and through the aperture carrying the aneurism needle armed with its thread, which should next be made to bulge out the intercostal muscle outside the artery, where the point of the probe might open a way for it outwards, and the artery and parts connected could thus be tied and compressed *en masse*; this mode of proceeding being resorted to because of the want of that space between the ribs, which would be sufficient to allow us to find the artery, and to isolate it in the ordinary way. The dorsal artery of the penis may be easily

compressed by seizing the root of the penis between the fore finger and thumb. When pressure cannot be applied at a lower point, the external iliac may be compressed against the brim of the pelvis through the abdominal parietes, the force being applied obliquely outwards. The femoral artery is easily and often compressed, as before alluded to, against the pubes, the pressure to be exerted obliquely so as to close the calibre of the vessel upon the ileo-pectineal eminence; this may be done with the fingers with or without the aid of a pressing instrument, with the compressor of Dupuytren, or even with the tourniquet. The vessel may also be easily compressed against the femur at the upper part of the middle third of the thigh, the direction of the force should here be backward and outwards; the popliteal artery may be compressed behind the knee joint, with or without the tourniquet; the latter, however, had better be used on account of the great quantity of adipose tissue in the neighbourhood of the vessel; instead of compressing the arteries below the knee-joint, it is usual to command their circulation by compression of the femoral.

So much for the means of preventing hæmorrhage applied before the operation,—we now proceed to offer some remarks on the means of saving blood during the operation.

During the removal of large tumours for example, arteries of considerable size are sometimes divided, sending forth a stream of blood, which, if continued beyond a very short time, might endanger the life of the patient. Such a case I met with about ten days ago; where, in removing a tumour weighing some pounds, from the back of the shoulder and side of the neck, large arteries entering the centre of it were cut across; with the aid, however, of prompt and adroit assistant, the hæmorrhage from them was readily stopt; an assistant placing the end of his finger upon a divided and bleeding vessel, which he commands for a moment with the left hand, until it is seized with the forceps held in the right, and has a ligature applied to it. In some operations where blood oozes in considerable quantity from the cut surface, as, for instance, on the removal of tumours, &c., but where there is no hæmorrhage, *per saltum*, which is visible from distinct arterial branches, pressure exerted around the wound will sometimes suffice to arrest the bleeding. In such operations as those at the hip and shoulder joints, the axillary or femoral artery may be seized by an assistant during the operation before the knife of the surgeon arrives at it, who may compress the artery and raise the flap in which it is situated out of the way of the surgeon at the same time. In the operation for hare-lip, on children of delicate constitution, the instrument for holding and at the same time compressing each section of the lip, made by Mr. Weiss, will prevent any loss of blood worthy of mention; if this instrument be not employed, each portion of the lip may be so held between the finger and thumb, as nearly to answer the same purpose.

Tying arteries previous to operation, to prevent hæmorrhage during its performance, is a practice seldom had recourse to, although it is barely possible that such a thing might be desirable. If life were menaced by pressure on the larynx, &c., from enlargement and disease of the thyroid body; but few surgeons would now-a-days attempt the removal of the offending mass. Such an attempt has, however, appeared warrantable to skilful and prudent surgeons, Roux and others. "On one occasion," says Professor Fergusson, "in a case where the affection (of the thyroid) produced more than usual annoyance, I witnessed an attempt to remove a portion of this gland, but the operator was speedily obliged to desist, in consequence of the profuse hæmorrhage; a needle was thrust across the swelling (which was chiefly in the middle or isthmus), and a stout double thread was tied tightly round the most prominent part, by which the blood was restrained; a slough followed, and the patient was relieved of a troublesome, tickling cough, which had resisted all other means of cure. Roux, after expending more than an hour in removing a portion of this gland about the size of an orange, and applying forty-seven ligatures, lost his patient fifty-six hours afterwards. It appears to me somewhat doubtful, whether we could not remove a portion of the thyroid body without the great danger that is generally apprehended—by combining the previous ligature of some of its sources of arterial supply with ligature *en masse* practised upon it at the time of the operation; to these considerations, however, we will afterwards revert. During an operation, the ligature of an artery already exposed before its section with the knife, is occasionally necessary,—such a precaution I have known to be required with regard to the profunda femoris, in removing a tumour from the thigh. Hæmorrhage from veins is seldom alarming during the performance of operations; it may be caused by the pressure of the tourniquet, or it may be caused by the only partial pressure of the arterial system of the limb where the tourniquet is not employed, or it may be caused by a want of free circulation through the lungs, arising from violent efforts sometimes made by the patient during operations; where the cause is on the spot, as in either of the former instances, its removal is easy; where it is pulmonary, as in the latter, the patient should be directed to draw in his breath three or four times very freely, for this enlivens the pulmonary circulation, and occasionally puts a stop at once to that which appeared an unmanageable and formidable bleeding. During some operations the employment of the little self-closing forceps, significantly called Mr. Liston's 'bull-dogs,' to hold the arteries until they can be tied, will be found an useful adjunct to other means; these appear to be more especially applicable during removal of the breast, or in operations of a similar nature.

ON THE MINUTE STRUCTURE OF THE BRAIN, IN THE CHIMPANZEE AND IN THE HUMAN IDIOT,

Compared with that of the perfect Brain of Man; with some Reflections on the Cerebral Functions. By JAMES MACARTNEY, M.D.

MANY years ago I discovered, with only a common pocket lens, a reticulation of fine white fibres, immediately under the surface of the cerebrum, in birds. This first led me to believe that the medullary fibres, as they are called, extended farther, and were more subdivided than had been hitherto supposed. I have since been able to demonstrate to medical students, and to several teachers of anatomy, the existence of those filaments in every part of the brain, by simply moistening the substance of the organ, during the dissection, with a solution of alum in water, which has the effect of slightly coagulating, and rendering the final filaments visible, which, in their natural condition, are transparent. By this means, I have shown that the filaments (which I prefer to call sentient, instead of *white* or *medullary*) everywhere assumed a plexiform arrangement, and that the most delicate and intricate plexuses were to be found inclosed in the grey or coloured substance of the brain. This fact proves the analogy between the coloured substances of the brain, and the ganglia of the nervous system, in which there is a close reticulation of nervous fibres. I have long been in the habit of considering the magnitude and form of the entire brain, and of its several parts as being merely subservient to the number, extent, and connexions of the various plexuses, in which, and especially in those occupying the coloured substances, I believe the sensorial powers of the brain to reside.

A chimpanzee (the pigmy of Tyson) having some months ago died in Dublin, and the dissection of it having been intrusted to Mr. Wilde, I proposed to him that I should undertake the examination of the animal's brain, in my own manner. Tyson and others had described the bulk, shape, and external appearance of the different parts of this creature's brain, but the intimate structure had never been examined by any anatomist.

I shall now lay before the academy an account of what I observed in the brain of the chimpanzee, and likewise in those of two idiots; by which it will appear that the brain in the latter possesses a still lower degree of organization than in the former animal.

Dissection of the Brain in the Chimpanzee (*Simia Troglodytes.—Lin.*)—The *external form* bore so great a resemblance to the human brain, that, excepting the difference in size, the one might be mistaken for the other. The *convolutions* were as decidedly marked, and the proportions of the cerebellum to the cerebrum were exactly as in man. On the under surface of the brain I observed that the two white pea-shaped bodies, called *corpora candicantia*, were very indistinct; and they did not appear to be, as in man, the continuation of the anterior crura of the *fornix*. The *pons*, which unites the lateral lobes of the cerebellum, was, perhaps, rather flatter than in the human subject, and the fifth pair of nerves entered it, and passed for a little way distinctly, which is so remarkable in the sheep. The *pyramids* did not decussate to any extent; only two superficial bundles of fibres crossed. The *corpora olivaria* did not project distinctly, and the band which surrounds them was not observed. The structure internally of these bodies consisted of white filaments included in grey substance. The branches of the *arbor vitæ* were, perhaps, not so deep, but quite as numerous as in us. The white filaments composing the trunk were not so fine, nor so strictly interwoven, as in man, and, therefore, they were more easily distinguished. The *corpus fimbriatum* was of a long shape, and appeared to be composed chiefly of grey substance, and wanted the dentienlated edge. The part called *locus niger*, in the crura of the cerebrum, was a small, greenish-grey mass, of an irregular figure, and less than a pea, instead of the crescentic form, as in man: and it did not mingle with the white fibres of the crus. The *pineal* gland was large. It was removed in making a cast of the ventricles, and lost; it was not, therefore, ascertained whether it had any calcareous matter in it or not. The parts in the lateral ventricles corresponded very nearly with the same in man. The soft *commissure* was particularly strong, and held distinct white filaments. The *linea semilunaris* was faintly marked. The two anterior of the *tubercula quadrigemina*, called *nates*, were the smaller. The *fourth ventricle* was much prolonged into the lateral lobes of the cerebellum. The *grey substance* on the floor of the ventricle was not raised into the appearance of two ganglia, and there were no *white striæ*. The sentient or white filaments formed looser or less complicated plexuses, wherever they were examined, than in man, and I could not discover any of the delicate *arborescent filaments* in the base of the *corpora striata*.

Dissection of a Female Idiot, with Extraordinary Brain.—The whole mass of the brain was small, but the front part did not recede. The *convolutions* were rather small, but sufficiently deep for the size of the brain. The *lobes* of the *cerebellum* were not the one-third of the usual size. The *gyri* were scarcely distinguishable, and the divisions were few and shallow. The *arbor vitæ* had but two principal branches, and the subdivisions of these were few. The anterior part of the lobes was supplied by two clusters of membranous glands, filled with red jelly or albuminous fluid, such as we find substituted for the cephalous fœtuses. The *corpus fimbriatum* was indistinct, wanted the dentienlated margin, and the proper structure inferiorly, and was not half the proper size. The *pons* was exceedingly small, and its internal structure obscure. The *pyramids* were parallel cylindrical forms, and did not appear to decussate. The *corpora olivaria* had little prominence, and the coloured substance was deficient. The *locus niger* was imperfectly formed, and not of a dark colour. The *corpora striata* were very small, as also the white filaments contained in them. The *pineal gland* was rather of a large size, and contained a cluster of round soft bodies, in place of the calcareous granules. In fine, the character of the whole brain was imperfection of intimate structure. The plexuses were not intricate, and the grey substances pale, and not in sufficient quantity. This person had been a patient in the Whitworth Hospital. The account I received of the state of her intellect from the house pupil was, that she was foolish, and that he could never get a rational answer from her. She was extremely ugly, with projecting jaws and teeth, and an idiotic countenance. She was an

unmarried woman, but not a virgin, notwithstanding the great deficiency in her organ of amativeness.

Dissection of the Brain of a Male Idiot.—The *cerebrum* was small, and the anterior lobes especially so. The *cerebellum* projected beyond the posterior lobes of the hemispheres. The *convolutions* of the cerebrum were small, particularly those of the anterior lobes on the *left side*,—they were so imperfectly developed, and so closely connected to each other, that they had more the appearance of a tuberculated than of a convoluted surface. The *olfactory nerves* were small, and very deficient in grey substance; indeed, all the coloured parts of the brain were rather pale. The *pyramids* could scarcely be distinguished, being extremely small, and confounded in the projection of the corpora olivaria; they did not appear to decussate; the one on the left side was particularly small. The left hemisphere of the brain was smaller than the one on the right side. The *tubercula quadrigemina* were of an equal size, and a grey colour on their surface. The *pineal gland* was large, semi-transparent, and contained very little of the gritty matter. On the surface of the *left* crus of the cerebrum there was a green tinge observed, which, on being cut into, proved to be the *locus niger* in a disorganised and nearly dissolved state. There were no *white striæ* in the fourth ventricle. The *plexus* of white filaments at the roots of the *olfactory nerves* was very plain on the *right* side, but very imperfect on the *left*. The *brain* was tolerably firm. The *spinal marrow* was hard and the *cerebellum* was soft. The structure, as well as form of the parts in this brain, was imperfect throughout, but most remarkably so on the left side; the want of agreement between the two sides would necessarily impair the functions of the brain.—The first deviations from the perfect brain of man appear to be with respect to the following parts:—The locus niger, the corpus fimbriatum, the white striæ in the floor of the fourth ventricle, the decussation of the pyramids, the distinction of the anterior crura of the fornix, the corpora olivaria, the degree of intermixture of the sentient or white filaments in the arbor vitæ, the corpora candicantia, and the existence of calcareous granules in the pineal gland.—It is remarkable that many of these parts are not found in the first stages of fœtal life, and some of them not until after birth. The pineal gland, according to Meckel, is not perfect until the seventh year of infancy. The same parts also first decline, and ultimately disappear in animals, according to their scale of organisation; and further, it is chiefly with respect to these parts, that varieties of structure are observed in the brains of different rational human beings. I have found many deviations from the ordinary structure in subjects, without being able to ascertain what peculiarities of character belonged to them when alive; but, in one instance, of a deaf and dumb person, the white striæ of the fourth ventricle (with which the auditory nerves communicate) were imperfectly formed, were not subdivided, and did not unite with each other. If, therefore, we can ever arrive at correct notions of the functions of the brain, it must be by careful dissections of the interior parts of the cerebral organ, and by ascertaining the correspondence between the minute structure, and the endowments and dispositions of the different individuals; taking into account, at the same time, the influence of the various organs of the body, instead of ascribing to certain parts on the surface of the brain distinct and often opposing faculties, as Gall and Spurzheim have done.—It seems to be particularly absurd to suppose that the cerebellum, a part evidently as highly organised, and of as much importance as the cerebrum itself, should be designed to produce merely the sexual instinct. In animals that have the lateral lobes of the cerebellum very small, or who want them altogether, this instinct is stronger than in man. In those instances which are known of the absence of a part, or one lobe, or the whole cerebellum, no want of the venereal appetite existed; and a case is related of a person in whom the sexual desire was so ungovernable, that mechanic restraint became necessary; and it was found, after death, that both lobes of the cerebellum were wanting in this person. In animals that propagate only at particular seasons of the year, the testicles and ovaries are singularly developed at those periods, and afterwards decline, while at the same time no change takes place in the cerebellum. The abolition of the sexual instinct, by the extirpation of the testes, or of the ovaries, puts it beyond all doubt that this impulse does not originate in any part of the brain.—It would appear that all instincts depend upon the condition and state of feeling in those organs with the functions of which they are immediately connected; thus, the maternal instinct (at least in mammiferous animals) is in a great measure the result of the tension of the mammary glands. As soon as this is removed, by the absorbents carrying off the milk, quadrupeds lose all care and anxiety about their young. The cerebral organ would, perhaps, of all others, be the most unfit for the generation of instincts. The brain is destined to direct or control instinctive feelings, and, therefore, it cannot create them. If a person attempt to command any instinctive impulse to be felt, he will find it as impossible to do so as to rise from his chair, merely by willing it, without the aid of the muscles.—I have ascertained and demonstrated, by repeated dissections, that all the plexuses of the brain are continuous with each other; that no part of the nervous system is isolated; and consequently the different parts must exercise a mutual influence on each other. I have proved that the spinal nerves, as well as those of the brain, are not inserted in the same way as the roots of plants penetrate the earth, which has been heretofore believed, but that they are united with the parts from which they are supposed to arise, and that the spinal nerves, form a chain of communication with each other, after they enter the spinal marrow. It is in consequence of the integrity of the whole nervous system, that the various sympathies, both natural and morbid, exist between the different organs of the body. If the continuity of the sentient or nervous filaments were to be intercepted at any one place, their functions would be arrested at that point, in the same manner as the division of the nerve destroys sensation and voluntary motion in the parts to which the nerve is sent. —Some anatomists, it is true, have supposed that the various reticulations of the nerves, and the intermixture of the brain, were merely to bring them into contact, and that there was no incorporation of the sentient substances. This opinion is consequent upon another, as ill supported by facts —namely, that there is a subtile or nervous fluid, which carries impressions made on the nerves to the brain, and thus causes sensation; and that the same fluid, proceeding from the brain to the muscles, produces voluntary motions. It has never been, however, attempted to explain how this imaginary fluid could become the instrument of sensation or volition, more than the sentient substance itself. For my part, I am satisfied with the knowledge of the undoubted fact, that the peculiar matter which exists in the nerves and the white filaments of the brain, is endowed with the *power of feeling*—a power perfectly distinct from every other in nature; and I think it is equally obvious that the various modifications of sensorial function we observe are the result, and require for their production the multitude of subdivisions and reunions that take place in the sentient filaments of the brain and nerves. Voluntary motion appears to me to be the natural consequence of the connection between the central part of the nervous system, and the muscles which move in obedience to the will or desire of the individual.—*Transactions of the Royal Irish Academy.*

Spinal Irritation.—This disease, is supposed by Dr. Stilling, of Cassel, to be dependent on congestion in the capillaries of the spinal chord. He remarks, also, that wherever there is sanguineous congestion there is an exudation of serum through the parietes of the blood-vessels, which softens the surrounding structures; so that in *post mortem* examinations of persons who have died with the above disease the spinal cord has been found in all stages of ramollissement.

ACCOUNT* OF A CASE OF
SUCCESSFUL AMPUTATION OF THE THIGH
DURING THE
MESMERIC STATE,
Without the Knowledge of the Patient
Read to the Royal Medical and Chirurgical Society of London, on Tuesday, the 22d of Nov., 1842.

By W. TOPHAM, Esq., and W. SQUIRE WARD, Esq., M.R.C.S., Formerly House Surgeon to St. Bartholomew's Hospital

To the Royal Medical and Chirurgical Society.—Mr. President and Gentlemen:—*In detailing the circumstances attending the important case I have the honor of communicating to this learned Society, I shall abstain entirely from any preliminary remarks upon the supposed cause of the effects I have produced. I shall, still, call the state "Mesmerism," because the term involves no principle; it regards the phenomena only, and not the specific cause for them.—Whatever the agent may be, through which the Mesmeriser influences his patient, whether by a medium—some, or the entire portion of which, is already familiar to us, under another designation—or by a medium totally new to our experience, it becomes me not now to inquire.—The generality of men, when they hear of some novel phenomena, instead of testing* the truth *by experiment alone, endeavour to ascertain* the cause, *by their own powers of reasoning; and belief or disbelief, is made to follow the result. The startling phenomena of Mesmerism have but too frequently illustrated this remark.* To facts, *I shall, therefore, confine myself; and to such only as I can personally vouch for.*

James Wombell, aged 42, a labouring man, of a calm and quiet temperament, had suffered for a period of about five years, from a painful affection of the left knee. On the 21st day of June last, he was admitted into the District Hospital at Wellow near Ollerton, Notts.; no longer able to work, and suffering much pain. It was soon found that amputation of the leg, above the knee-joint, was inevitable; and, it was eventually proposed, that it should be performed, if possible, during mesmeric sleep.

I saw Wombell, for the first time, on the 9th of September. He was sitting upright, upon a bed in the hospital; the only position which he could bear. He complained of great pain, from his knee, and of much excitability and loss of strength from his constant restlessness and deprivation of sleep; for he had not, during the three previous weeks, slept more than two hours in seventy.

In the first attempt to mesmerise him, which occupied me thirty-five minutes, the only effect produced was a closing of the eyelids, with that quivering appearance, peculiar to mesmeric sleep; and, though awake and speaking, he could not raise them, until after the lapse of a minute and a half.

My attempt, the next day, was more successful, and in twenty minutes he was asleep. I continued to mesmerise him every day, except the 18th, until the 24th of September: his susceptibility gradually increasing, so that, on the 23rd, the sleep was produced in four minutes and a half. The duration of this sleep varied, continuing, generally, for half an hour; sometimes, for an hour; and, occasionally, for an hour and a half. But, with two exceptions (attempts to converse with him), I invariably found him awakened, though without being startled, by the violent pain from his knee; which suddenly recurred at uncertain intervals.

The third time I saw him, he was suffering great agony, and distressed even to tears. I commenced by making passes, longitudinally, over the diseased knee: in five minutes, he felt comparatively easy; and, on proceeding further to mesmerise him, he was sleeping like an infant. Not only his arms were then violently pinched, but, also the diseased leg itself; without his exhibiting any sensation: yet this limb was so sensitive to pain, in his natural state, he could not bear even the lightest covering to rest upon it. That night, he slept seven hours without interruption.

After constantly mesmerising him for ten or twelve days, a great change was observed in his

* From the pamphlet published by Baillière.

appearance. The hue of health returned. He became cheerful; felt much stronger, was easier, both in mind and body; slept well, and recovered his appetite.

On the 22nd of September he was apprized of the necessity of an early amputation. The communication seemed almost unexpected, and affected him considerably. I, this day, tried the experiment of mesmerising him against his will; proceeding by contact with the hands, charging him, particularly, to exert his mind to prevent my affecting him. During the process, he occasionally glanced at those near him; moving his eyes as he felt inclined, and, in twelve minutes and a half, passed into mesmeric sleep. The two or three previous days, it had been effected in six minutes. He informed me, subsequently, he had repeatedly called to mind the intelligence just received, and the torture which he must endure; but he soon found the influence irresistible, and presently lost all consciousness. The anticipated loss of his limb, however, that night, destroyed his natural sleep. Next day, though found still fretting, restless, and in consequent pain, he was yet, by my touch, asleep in four minutes and a half.

I was then absent, and did not see Wombell until the 28th. He was looking healthy and cheerful; his natural sleep was sound and regular; and his pain soothed and diminished. I was now convinced that the operation might be safely attempted during mesmeric sleep, and, with the man's firm consent, it was fixed for the Saturday following.

On the morning of Saturday, the 1st of October, I again mesmerised Wombell, having done so the two previous days. This was done in the presence of Mr. William Squire Ward, of Wellow (the operator), and two other surgeons; in order that the previous mesmerism might tend, as I believed it would, to render his sleep deeper, when again mesmerised for the operation: and also to satisfy them of the state in which he would be, when that time arrived.

He slept an hour; and was roused by an attempt to converse with him. I then shewed them my power of affecting any one of his limbs, even when he was quite awake. At my request, he extended his arms alternately. By making two or three passes over each, without any contact, I so transfixed them, that, from the shoulders to the tips of the fingers, they became as rigid and unyielding as bars of iron, not to be unbent except by mechanical force, powerful enough to injure the limbs, and yet instantly relaxing throughout, and dropping to his side, from the effect of my breath alone. His right leg was affected in the same degree; and relief from immediate pain was frequently afforded, by making similar passes over the diseased one. Though the sensibility to pain was diminished, in the limbs thus affected, whilst awake, it was only during mesmeric sleep I found it totally gone.

At half-past one o'clock, we proceeded to Wombell's room, to make the necessary arrangements. From the suffering inflicted by the slightest movement, it was found impossible, without needless torture, to place him upon a table. The low bed, on which he then lay, was therefore raised upon a temporary platform. Ten minutes after being mesmerised, he was drawn, by means of the bedclothes beneath him, towards the end of the bed. The movement, however, excited that pain which had so often aroused him before, and now it did so again. There was something quite excruciating in the suffering which the state of the knee produced: for, I had seen him, whilst in mesmeric sleep, pricked to some little depth, in other parts of the diseased limb, without being disturbed or conscious of it. To preclude the necessity of any further movement, his leg was now placed in the most convenient position which he could bear. Shortly afterwards, he declared that the pain had ceased; and I again mesmerised him, in four minutes. In a quarter of an hour, I informed Mr. Ward that he might commence the operation. I then brought two fingers of each hand gently in contact with Wombell's closed eyelids; and there kept them, still further to deepen the sleep. Mr. Ward, after one earnest look at the man, slowly plunged his knife into the centre of the outer side of the thigh, directly to the bone; and then made a clear incision, round the bone, to the opposite point, on the inside of the thigh. The stillness, at this moment was something awful; the calm respiration of the sleeping man alone was heard: for all other seemed suspended. In making the second incision, the position of the leg was found more inconvenient than it had appeared to be; and the operator could not proceed with his former facility. Soon after the second incision, a moaning was heard from the patient, which continued, at intervals, until the conclusion. It gave me the idea of a troubled dream; for his sleep continued as profound as ever. The placid look of his countenance never changed for an instant; his whole frame rested, uncontrolled, in perfect stillness and repose; not a muscle or nerve was seen to twitch. To the end of the operation, including the sawing of the bone, securing the arteries, and applying the bandages,—occupying a period of upwards of twenty minutes,—he lay like a statue. Soon after the limb was removed, his pulse becoming low, from the loss of blood, some brandy and water was poured into his throat; which he swallowed unconsciously. As the last bandage was applied, I pointed out to one of the surgeons and another gentleman present, that peculiar quivering of the closed eyelids, already alluded to. Finally, when all was completed, and Wombell was about to be removed, his pulse being still found very low, some sal volatile and water was administered to him; it proved too strong and pungent, and he gradually and calmly awoke.

At first, he uttered no exclamation; and, for some moments, seemed lost and bewildered; but after looking round, he exclaimed, "I bless the Lord to find it's all over!" He was then removed to another room; and, following immediately, I asked him in the presence of those assembled, to describe all he felt or knew, after he was mesmerised. His reply was, "*I never knew anything more; and never felt any pain at all; I once felt as if I heard a kind of crunching.*" I asked him if this were painful? He replied, "*No pain at all: I never had any; and knew nothing, till I was awakened by that strong stuff*" (the sal volatile). The "crunching," no doubt, was the sawing his own thigh bone. He was left easy and comfortable; and still found so, at nine o'clock that night: about which hour, I again mesmerised him (in a minute and three quarters), and he slept an hour and a half. I may further add, that on the Monday following, the first dressing of his wound was in mesmeric sleep. Of this dressing, usually accompanied by much soreness and smarting, he felt nothing; slept long after it was completed; was ignorant of Mr. Ward's intention; and, after awakening, remained unconscious of its having been done.

Mr. W. S. Ward's own valuable statement, in accordance with his personal observation and care, prior and subsequent to the operation, he has kindly permitted to be appended to my own: and thus, to render complete the narrative of this case: which I leave, without a syllable of comment.

W. Topham.

Middle Temple,
Oct. 28, 1842.

SECOND STATEMENT.

Mr. President and Gentlemen:—

Being a party concerned in offering the present paper, for reading before your learned Society, I feel that, as a member of your own profession, and the operator alluded to in the preceding pages, some observations are due from me, in addition to those already brought before you by my friend, Mr. Topham.

The circumstances under which the operation was performed are of so novel a nature, that they may afford much ground for discussion, if the members of the profession, to whom I have the honour of addressing these observations, will calmly deliberate upon them; and, without prejudice, examine the subject, which (should further experience confirm the anticipations that may reasonably be entertained, from the happy results of the present trial) holds out such a boon to the surgeon, whose province it is, and whose study it has for ages been, to mitigate the poignant sufferings that "flesh is heir to."

The case, to which the attention of the Society has been already called, was one of very extensive ulceration of the cartilages of the knee-joint, of four and a half years standing, the consequence of neglected inflammation of the synovial membrane, produced by injury, which was treated by a quack, in the first instance, but did not come under my own notice until about three years before his admission into the District Hospital, at Wellow; when, supposing ulceration to have commenced in the cartilages, I ordered absolute rest and the usual treatment, which was only adhered to for ten days; when, in spite of every remonstrance on my part, he returned to his ordinary employment (an agricultural labourer) in his still crippled state.

He then fell into the hands of other practitioners, whose discipline was less rigid, and whose prognosis was more sanguine than mine. I frequently met him, and occasionally warned him of the eventual loss of his limb, if he persisted in using it. His last fair prospect was a promised cure by cupping; but this having produced no relief, he applied for admission into the hospital. At this time the disease had far advanced; the slightest motion of the joint was attended by the most excruciating agony; his nights were almost wholly sleepless, in consequence of the painful startings of the limbs; his pulse weak and rapid; his face constantly marked with a hectic flush; his tongue foul, and appetite gone. He was now confined to his bed, but could not bear a horizontal position. The joint was supported by a light splint; poultices, fomentations, &c., were applied; attention paid to his general health; opiates, quinine, wine, &c., prescribed to get him into a fit state for the operation (which I deemed inevitable), *without any apparent benefit*: but, on hearing that Mr. Topham was coming into the neighbourhood, I determined to request him to try the effects of Mesmerism upon him; with a view, not only of tranquillising the system, prior to the operation, but, if possible, to procure such a degree of insensibility to pain, as to render the man unconscious of the operation itself; having long desired to see this accomplished as the *summum bonum* of Mesmerism.

I was, however, obliged to leave home, from indisposition, at this period; but daily received reports of the progress made upon my patient: and, on my return, on the 27th of September, —about three weeks after the commencement of the Mesmerism,— I was as much astonished as I was delighted, to observe the improved condition of the man. He had, now, much more the hue of health; his nights were more quiet and tranquil; his appetite had returned; and, in fact, such was his state, that had I not known the previous history of the case, much doubt must have arisen, in my mind, as to the propriety of, immediately, amputating the limb. It is true, there was, still, the pain, on the slightest movement of the joint; and, still, some of the same painful startings at night; but he no longer appeared to be suffering in his general health, which, on the contrary, was greatly improved. nevertheless, I felt assured, notwithstanding all this in his favour, that there was too much disease to admit of a final recovery.

As I had quite determined upon not attempting to remove the limb, while the patient was under mesmeric influence, unless I was convinced of its safety, and had opportunities of seeing him in that state; and, moreover, not without the man's own full concurrence; on the 29th, I requested Mr. Topham to mesmerise him; when I was delighted to find his susceptibility so great. When asleep (if I may use the term), his breathing was unaltered, his pulse tranquil, and about 80; his waking was slow and gradual, and without the least start; and, I found, he was insensible to the prick of a pin.

Under such circumstances, I saw no grounds for fear or hesitation; and having obtained the patient's consent, or, rather, at his own urgent request, I fixed the following Saturday, 1st of Oct., for the performance of the operation.

The patient (as has been already stated) was lifted, with his bed, upon a platform, and, although he was considerably excited, by hearing the cries of another patient, upon whom I had been performing a tedious and painful operation in an ad-

joining room, he was soon put into mesmeric sleep. but, as I wished him to be placed in the usual position, with the limbs extended over the end of the bed, an attempt was made to draw him down with the bed-clothes; but this occasioned so much pain, as to awake him. I was, now, somwhat embarrassed; as his position on the bed, with his extremity lying in close contact with it, was so very unfavorable to the operator; but having proceeded thus far, I was unwilling to mar the first attempt at lessening the horror and pain of a capital operation; although I must confess, I was by no means sanguine of success. The patient was again put to sleep; previously to which, a surgeon present raised the limb about two inches from the mattress, by resting the heel upon his shoulder and supporting the joint with his hand; promising also, if the man should awake, instantly to draw him down, so as to allow the leg to extend beyond the edge of the bed.

In a few minutes, Mr. Topham said he was quite ready; when, having adjusted the tourniquet (the very unfavorable position of the patient precluding the possibility of otherwise compressing the artery), I proceeded to perform the operation, as has been described. Having made the anterior flap, without the slightest expression of consciousness on the part of the patient, I was under the necessity of completing the posterior one, in three stages. First, by dividing a portion of the flap on the inside; then a similar portion on the outside. This proceeding (which of course was far more tedious and painful than the ordinary one) was rendered necessary, to enable me to pass the knife through, under the bone, and thus complete the whole; as I could not sufficiently depress the handle to do so, without the two lateral cuts.

Beyond what has been already so well described by Mr. Topham, I need only add, that the extreme quivering or rapid action of the divided muscular fibres *was less than usual;* nor was there so much contraction of the muscles themselves: I must also notice, that, two or three times I *touched the divided end of the sciatic nerve, without any increase of the low moaning,* described by Mr. Topham; and which, to all present, gave the impression of a disturbed dream.

The patient is doing remarkably well; and sat up on Sunday last, to eat his dinner,—just three weeks from the operation; and he has not had a single bad symptom; none, even of the nervous excitement, so frequently observed in patients who have undergone painful operations, and who have suffered much previous anxiety, in making up their minds.

On dissection of the joint, the appearances fully verified my diagnosis. The cartilages of the tibia, femur, and patella, had been entirely absorbed, except a much-thinned layer, partly covering the patella. There was deep, carious ulceration of the exposed ends of the bones; and especially on the inner condyle of the femur; which had wholly lost its rounded shape. Some coagulated lymph was effused upon the surface of the synovial membrane, in several places; and the joint contained a certain quantity of dark-colored pus.

It is not my intention to trespass further upon the valuable time of the Society, by presuming to stand forward as the champion of Mesmerism generally: a task to which I feel myself to be totally incompetent. For a long time, I had been a sceptic; and, long, a "cui bono" querist: when, through the kindness of Dr. Elliotson, a few months ago, I was allowed an opportunity of examining for myself, the power of that agent in producing coma; in rendering rigid the muscles; and in causing, to a certain extent, insensibility to pain. I saw, and was convinced, that my opposition was ill-founded; and the result of this conviction has been the present successful and flattering trial; which is a sufficient answer to those who are incredulous, only, as to any benefit to be derived from it: for there can be very few, now, even of the most bigoted objectors, who will venture to deny its powers in producing coma. This, too, in the calmest temperament; not merely according to the frequent supposition, in the highly nervous young female, but, even to *utter insensibility* in an agricultural labourer, aged 42; to which class, I need scarcely add, nervous excitement, in the common acceptation of the term, is almost an entire stranger.

Be it observed, also, so complete was the susceptibility, that coma was quickly produced, under the most unfavorable circumstances; as, when in extreme pain from his disease; when using his own volition, to the utmost, to counteract it; and when on the table, with the fear of the operation before his eyes.

Although the single experiment, we have detailed to the Society, is scarcely sufficient to set the question completely at rest; is it *not* of a sufficiently encouraging nature, to demand an immediate repetition, by those of my professional brethren, to whom the splendid institutions of the metropolis offer such frequent opportunities?

W. Squire Ward.

CASES OF PERITONEAL SECTION
FOR THE
EXTIRPATION OF DISEASED OVARIA BY THE LARGE INCISION FROM STERNUM TO PUBES, SUCCESSFULLY TREATED, WITH OTHER CASES OF EXTIRPATION OF ANOMALOUS TUMOURS, &c. &c.

By CHARLES CLAY, Member of the Royal College of Physicians, London of the College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence &c. Piccadilly, Manchester.

(Concluded from page 112.)

CASE THE FIFTH

The remarkable features presented by this case at first, and more so when the tapping had been effected, rendered the prospect of recovery all but hopeless. The extent and number of adhesions were such, that it appeared impossible they should be overcome, without effecting irreparable injury; and yet this case recovered more rapidly than any of the previous, and contrary to the expectations of every one present at the operation.

MRS. HARDY.

I have reported the following case that it might not be said I only made public the fortunate cases. It is analogous, as far as the peritoneal section is concerned, but entirely different as to the why such an operation was attempted. Of the cases previously related, those of *ovarian disease were decidedly and remarkably successful, neither age, extent of adhesions, size of tumour, length of disease, nor quantity of ascitic deposit offered any obstacles to their recovery.* The case of Mrs. Dillon, I am inclined to think, (and regret I had not an opportunity of confirming it by a post mortem examination,) was not an ovarian disease, but a tumour of another and widely different character, one that would very soon have destroyed the patient. Had not indulgences been resorted to of a character incompatible with recovery: there is no doubt on my mind that she would have lived much longer after the operation, still it was sufficient to prove how little danger arose from the incision of the peritoneum, that being almost entirely healed before death.

The last case was truly an unfortunate one still, it in no degree detracts from the operation *for encysted ovarian tumours.* The seat of the disease and the disease itself offered less prospect of success, whilst the latterly rapid growth and frequent severe accompanying pains of the tumour shewed that its malignant character would soon have been developed to the full, and terminated fatally, all these were fully confirmed by the post mortem examination. Mrs Hardy æt. 45, never had any children, appeared about the size of a female in the eighth month of utero-gestation. The tumour had a lobulated character, of a hard unyielding feel, not the slightest deposition of fluid could be detected either in the abdominal cavity or within the walls of the tumour; it appeared not to have the slightest peritoneal

Simple diet continued, with the addition of a little weak mutton broth once a day.	Motions	Urine	Sleep	Pain	General Surface	Tongue	Pulse	Temperature	From the Termination of the Third Day after Operation to the end of the Case.
Ligature not yet away—wound requiring very little dressing—ordered two tea spoonsful of ol. ricini.	None.	Frequent ℥xx.	All night.	None.	Warm & moist.	Clean.	80 soft.	63	4th day after operation—Nov. 12.
Ol ricini operated gently: two motions—began to feel hungry and wanted something tasty, but not allowed.	Two.	Often ℥xvii.	Most of the night.	None.	Warm & moist.	Clean.	76 soft.	63	5th day—Nov. 13.
Wound requiring only one strip of plaister over the ligature—tapioca pudding, with former diet.	One.	Often ℥xx.	All night.	None.	Warm & moist.	Clean.	75 soft.	63	6th—Nov. 14.
Continues to do well—diet as before, with the addition of a little weak mutton broth.	One.	Often ℥xxiv.	All night.	None.	Warm & moist.	Clean.	75 soft.	63	7th—Nov. 15.
Has set up most of the day—feels very well—takes broth freely.	One.	Often ℥xvii.	Most of the night.	None.	Warm & moist.	Clean.	75 soft.	63	8th—Nov. 16.
Continues very well—sat up all day.	Two.	℥xxiv.	Slept well.	None.	Warm & moist.	Clean.	76 soft.	63	9th—Nov. 17.
Continues well—requires no dressing, except over the ligature.	One.	℥xx.	Slept well.	None.	Warm & moist.	Clean.	75 soft.	64	10th—Nov. 18.
No restriction as to food—walks about the house—feels quite well.	Tw	Frequent	Slept well.	None.	Natural	Clean.	75	64	11th—Nov. 19.
Only saw her occasionally after this—considered further close attendance unnecessary.	One.	Frequent	Slept well.	None.	Natural.	Natural.	soft		12th—Nov. 20.

attachments and could easily be moved under the integuments, lastly it occupied more of the right than the left side. Having been made fully alive to the danger of extirpation, still she was urgently desirous of having it removed and in the hope that its attachments would not be serious. The operation was commenced on the morning of the 17th, in the presence of Dr. Radford, Mr. Walker, Mr. W. C. Vandrey, Mr. G. Southam, surgeons, and Mr. Winterbottom. The incision to the extent of thirteen inches was quickly made, and as had been anticipated no peritoneal adhesions existed; the tumour however presented very different appearances to encysted ovarian tumours, it was of a bright pink colour, hard as a piece of boiled liver, and composed of numerous small lobes with acute edges similar to the lobes of the liver, the mass appeared upwards of 12lb. in weight. I soon discovered to my mortification that its attachment was of a very broad character at its base and highly vascular, no less than the full length of both fallopian tubes and the greater part of the uterus itself formed a part of the tumour. I had now gone too far to recede, no alternative presented but extirpation of the whole mass; at this period of the operation my patient began to faint, (and it should here be stated that for some time past she had been subject to syncope of an alarming character,) ligatures were placed round the fallopian connections as well as the central uterine attachment, still considerable hæmorrhage occurred when the parts were separated. The mass included in the ligature was too great to have any decided effect on the vessels supplying the diseased mass, which were very numerous, and from the repeated attacks of syncope following each other rapidly during our endeavours to secure them, it was evident the shock of the operation would be too great; the vessels were secured, the integuments brought together and the patient placed in bed, after which every means were put in force to rally her but in vain, attacks of syncope continually occurred and she finally sank about an hour and a half after the removal of the tumour. Some time after, a *post mortem* examination was instituted, when it was found that the part severed was so charged with vessels, that the section presented mouths of vessels almost as numerous as the cavities of a piece of sponge and some of them very large; there was but a small portion of the neck of the uterus and the os uteri that was not amalgamated with the substance of the tumour. The tumour weighed 13lbs. was entirely solid and highly vascular, and its character evidently such as to promise an early and speedy termination of life, even had it remained, if any injury or excitement had occurred. No one could have regretted the unfortunate termination of this case more than myself; my medical friends felt it equally and though it cannot be quoted as an argument against the operation *for ovarian tumours*, yet it offered an excellent caution against attempting the removal of tumours of a more solid formation, which I presume are always connected with viscera of more serious importance than the ovaria. It may also be observed that persons prone to syncope and that of an alarming character, are perhaps not fitted to undergo an operation of such magnitude: in such, the mere shock of the operation must often be attended with a fatal issue.

Before I conclude these papers, I may mention two other cases of ovarian disease, that furnish a hint or two worthy of consideration.

MRS. ORMROD.

Mrs. Ormrod, Chadwick Street, Manchester, consulted me in September last (1842.) She was 62 years of age, enormously distended in the abdomen by fluid. I proposed paracentesis abdominis, and performed it in two places without being able to bring away more than two or three pounds of a thick glairy fluid, of a brownish tinge. I diagnosed this to be a case of encysted ovarian disease, and as my patient was too old to promise a favourable result by operation, and even supposing such a means had been proposed, she was of too timid a character to undertake it, I therefore advised the steady perseverance of the following formulæ:—

℞. Tinct. Opii ʒiss.
Subcarbon: Potassæ ʒij.
Infusi. Gentianæ ℥viij. M.
℥i. ter in die
℞. Linim: Saponis ℥ii.
Tinct. Iodini ʒij.
Appl. Ad. Reg. Abdom. frequent.

The effect of the subcarbonate of potass in this case hitherto has been most remarkable, the circumference of abdomen being reduced thirteen inches, the ovarian tumour being now very distinct in the left iliac region. I do not, however, expect this effect will be continuous, nevertheless it offers a means of prolonging life with greater comfort in an aged person, or where the operation is otherwise not advisable.

MRS. WARD.

Mrs. Ward, Bell Street, Manchester, æt. 62, applied to me on the 13th November. The abdomen was enormously enlarged, fluctuation very distinct. I performed paracentesis abdominis, when 33½lbs. avoirdupois were discharged, thick, glutinous, and of a brownish colour, coagulable on the application of heat. After which I felt the ovarian sac with two large solid masses, situate in the right iliac region and one over the pubis, the appearance of the whole very much like the case of Mrs. Edge. As the age of Mrs Ward was more than I approved of for operation, and her constitution otherwise bad, I did not advise it, but substituted the potass mixt.; as in Mrs. Ormrod's case, at present it appears to check the refilling of the cyst. The reason I introduce this case is, to shew that ovarian diseases are perhaps more common than the profession has hitherto supposed, and I am inclined to believe very many of those obstinate cases of dropsy where there is frequent recourse to tapping, to be connected with ovarian disease; at least it would be well to pay a little more attention to the state of the ovaria after tapping, for if they *are diseased*, all the tapping in the world will never cure the disease.

CONCLUDING REMARKS.

After much reflection, I have no hesitation in stating my conviction that the extirpation of ovarian encysted tumours may be performed with comparative safety. And if the age be not too advanced, I believe the cases I have here given will fully prove that neither extent of adhesions, size of tumour, ascitic deposit, worn down constitution, nor peritoneal inflammation, should prevent extirpation being performed. The success of the operation is more than equal when compared with other capital operations in surgery. I would not advise, however, the peritoneal section so confidently in other tumours of the abdomen; still it is at all times a justifiable course where the patient earnestly requires it, and no other hope of prolongation of life presents itself. The exposure of the abdominal viscera, if the room be moderately heated, is attended with no bad consequences, nor yet a moderate loss of blood during the operation. The principal pain is confined to the first incision through the skin, and to the stretching of the pedicle whilst it is secured and severed. If the ligature is not drawn very tight, it will be much longer in coming away. I find it better *not* to let the interrupted sutures remain too long. I take every other out the third day, and the rest the day after, or at longest the 5th day. Thus much unnecessary irritation is avoided. Pain, after operation, is always controulable by a grain of mur. morphine. Some days after the pressure is removed from the abdominal viscera, there appears to be a tendency to diarrhœa, which, if not closely watched, and timely checked, may soon undo all the good that has been accomplished. Mere debility, arising *from the ovarian disease only*, before the operation, is more favorable than otherwise, and affords a good safeguard against peritoneal inflammation. I cannot conclude my remarks without correcting the statistical account of these operations as given in the preceding remarks rendered necessary by additional operations.

Large incision, 3rd., by Dr. Clay. Successful.—1 by Mr. Walne, do.—Total, 12 successful: 4 fatal.—Jeffreason, small incision.—1 by Dr. Stilling Cassel: fatal.—Total, 5 successful; 5 fatal

The above operations were for diseased ovaria only, in addition to which may be recorded two cases of anomalous and uterine tumours, of a very malignant character, which were attempted by the large peritoneal incision by myself, both of which proved fatal, the first from causes already mentioned, the last from the shock of the operation. I now leave the matter to the candid consideration of the profession, hoping those prejudiced against the operation, will examine fairly before they condemn. To those of more liberal feelings, (many of them men of the highest standing in the profession, who have kindly and considerately forwarded me their congratulations and approval of my humble attempts to improve pelvic and abdominal surgery) I return my best, my warmest thanks, as well as to the editor of the "*Medical Times*," for his courtesy in allowing me to occupy so many pages of his valuable journal.

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THE MEDICAL TIMES.

SATURDAY, DECEMBER 3, 1842.

————Omnia Romæ
Cum pretio. Quid das ut Cossum aliquando salutes?

In every battle of men, says a German writer, there has been also a battle of principles—and, reasoning in his spirit on our struggles for hospital appointments, we are disposed to see in them, a conflict beyond that of the individual candidates—a conflict which, rising above the petty strifes of personal ambition and involving questions of social right, still more than private interests, presents to the impartial journalist (the earthly providence in these matters) the *dignus vindice nodus*, the justifying reason for interposition.

Impressed with the deep conviction that if ever there be an occasion in which merit alone should sway preference and support, it should be surely that in which a governing body has the appointment of an officer on whose scientific abilities, and conscientious attention to his duties, depend the most vital interests of a numerous portion of our suffering fellow-countrymen—it is with no little concern that we have to direct the public attention to the approaching election for the physicianship of Westminster Hospital, about to be made vacant by the retirement of Dr. Burne. It appears that there are already three candidates in the field. Dr. Kingston, a young person, hitherto unknown to the public—Dr. Basham, a gentlemen against whom the same charge cannot certainly be laid—and Dr. Robert Hunter, the eminent lecturer, whose name and fame were, last year, so adroitly enlisted by the Governors of the Hospital, in support of the fortunes of their *then* declining School. We will not attempt to disguise an *honest* personal preference in favour of the last-named gentleman—founded on the reports which have reached us of his scrupulous attention to his duties as a public lecturer—a trait but too rarely noticeable in our London lecturers: but, apart from any prepossession of this kind, it is impossible for any one who gives a moment's thought to the respective standings of the three candidates in the *scientific world*, to hesitate for a single instant about deciding who brings the highest—in truth, the *only*—real title to the appointment, and whose character promises to throw the greatest lustre over the institution benefitted by his labours. Yet if our assurances, received from various quarters, be correct, the candidate *least* likely of success, is precisely the gentleman most entitled to it. Merit would appear to be a quality far too subtle for the cognizance of the present system of hospital elections, which, accordingly, regulates its favours by a much more tangible and obvious standard—the length and strength of the candidates' purses. The decision, on the day of election, will convey to the poor patients but the Governors' decision on their physician's *pecuniary* superiority. Already golden instrumentality has been in full play. The prospect of a vacancy has softened—as by a miracle—the flinty hearts of stingy kinsmen, to the third and fourth degree. Ladies'-maids, retired serving-men, and insolvent tradesmen, have suddenly grown rich—and charitable as rich; and the Hospital List, in the short space of a month, shews two hundred new Governors moved by the soft impulses of divine benevolence to befriend an hospital, on whose existence depends, not the fortunes of some wretched invalids accustomed to misery, but, alas! much *worse*, those of some helpless, unprovided physician. The owner of these newly-purchased votes—whom rumour names as he who has most need of such extraneous appliances—we mean the youthful Dr. Kingston,—that gentleman will inevitably be the future physician, unless the other candidates are prepared virtually to bid a larger sum for the post. Dr. Hunter, we are told, will make no money-tender, and we may, therefore, place his appointment among those which are described by the Greek grammar as in the "*Paullo post futuro*" tense. Dr. Basham, judging from the unceremonious manner in which for the exciting cares of canvassing, he has been bilking his students of their purchased lectures, is not likely to be so very fastidious; and if the doctor's purse only equals his will, we shall no doubt have a neck and neck run between him and his more youthful competitor.

This is utterly, intensely, disgraceful—but we have so often enlarged on the iniquity of our hospital appointments, that we should hardly be excusable if we now dilated on the dishonour to the profession—the injustice to modest merit—the mischievous results to patients—and the general violation of the best rules of decency and morality, which the present system necessarily engenders. There may be, as some allege, something of fortune in every physician's practice—but there can be no doubt that in the long run, as in even the greatest game of chance, the greater skill must achieve the greater number of triumphs. Human life, it cannot be too well remembered, is the trophy of each success—as its destruction, or impairment, is the result of each failure: and it is not too much to say, that the deliberative choice of a secondarily-qualified attendant for the poor, is the Governors' sentence of death on an indefinite number of patients; and that the election of one ranking lower in qualifications, is a similar sentence on a still greater number of victims. But as we are told that it is preposterous to ask that the poor's health and lives—much less, the education of the students—should take precedence of the Westminster Governors' business-like anxiety to serve the protegé of a friend or customer,—we place these considerations before the candidates themselves, and ask those of the three before us, who are conscious of their secondary standing in science, how will they feel—the public, the while, frowning that distrust on them it ever shews to ill-acquired and ill-discharged responsibilities——as those untoward events, mildly called accidents, and the sure consequences in the long run of all incompetency, shew themselves in the fulness of time, in their calamitous, but well-scrutinized public practice? If this consideration be without power, let them reflect that the time when mediocrity could, in calm ease, and unscathed by public animadversion, work itself into profitable note, by undertaking perilous charges beyond the measure of its powers, is past. Moderate abilities are no crime with moderate pretensions; but when they hustle for an eminence at once undeserved and hurtful, they must not complain if sturdy common sense use his truncheon to keep them in order. Of one thing empty *pretenders* may be certain—they cannot court publicity and mischief, and escape ungibbeted by the *Medical Times*. The Babingtons and Hale Thompsons do not occupy *all* the gallows which we have constructed for the gang of moral convicts.

Two courses lie before the Westminster Hospital Committee of Management, accordingly as they mean to act a conscientious part on the one side, or a frank piece of profitable wickedness on the other. Either let them defer *sine die* the election, and in the meantime appoint a substitute whose name would retrieve the character, and whose labours would renovate the utilities of their charity; or else let them publicly announce for the benefit of their funds, the plain fact, without disguise, that their appointment is open to any man who will pay the most money for it. An advertisement in the style subjoined would draw a host of fresh candidates, and get a far better price for their appointment than even that Dr. Kingston advances.

"The Managing Committee of Westminster Hospital have a Physicianship to dispose of to the highest bidder. The only qualification required is hard cash (say 1000*l*.) a sum which if a little high in itself, is certainly small in reference to the elevation of the office, the absence of all other requisitions being considered. To a physician in his teens,

without practice, or to a superannuated valet, or coloured footman, this is a most eligible speculation: the first gentleman securing the advantage of unlimited practice on the poor, with free vivisections in their highest range (if required); and the second by the single preliminary of purchasing a German degree, being at once elevated into one of the highest positions of a learned profession, with the probable chance (if he be a man of tact and decorum) of a baronetcy and presidency of the College of Physicians.—Apply to the Secretary at the Hospital."

Illuc heu miseri traducimur!

There has been much — not to use a harsher term—disgraceful equivocation employed on the question concerning the examination of practitioners. The new practice, in reference to their admission, has been denied in plain terms, under the verbal shuffle that it is not a regulation. Now, the question *is* not, never *was*—whether a certain practice of known and acknowledged occurrence originated in a formal resolution, or was formally inscribed as a regulation on the College books. The question was, whether such a practice existed or not—and, its existence confessed, the whole matter in issue was ended. We say it existed,—so does Mr. Guthrie; and the subterfuge of denying the fact of a regulation in order to imply a breach of veracity on our sides, is nothing short of palpable and disgraceful immorality. In the new announcement which we last week shewed to be so peremptorily required—and which is now officially advertised, the College is made to stand out at once our accuser and its own condemner. There is not only a falsehood in the document, but there is a self-convicted falsehood — a transparent falsehood, which the council exposes in its own short statement. We are told first, that the reports published, and, with due respect to the priority of the College's own president, we willingly avow our share in publishing them; we are told that these reports are erroneous. Yet, what is the very next sentence? A resolution that gentlemen practising surgery before 1835 shall be admitted to examination, on producing proofs of such anatomical and surgical education as may be deemed sufficient by the Court of Examiners! Now, *practically*, what is the difference between this *regulation*—for we may now, we suppose, term it so—and Mr. Guthrie's, and our statement,—that practitioners were admitted to examination on their merits practically, without reference to the certificates that were customarily required? The *written* rule admits, it is true, a most mischevious discretionary power—a dangerous liberty of personal favouritism in the council; but, was not this the very vice we condemned in the council's past secret practice on this matter, and which Mr. Guthrie by his honest letter, and we by our public remonstrances, sought to correct? Every gentleman applying for examination will, of course, have had some education to justify his confidence; but, to restrict the examination to such gentlemen only as please the council, without any statement of a fixed standard of the sort of requisites that *must* please them, is an unwarrantable assumption of power for discreditable purposes, which the charter of the College can no more be made to sanction than can common sense or justice. The resolution, it will be seen, so far from opposing, supports our statement—that practitioners have been, and are, (we use Mr. Guthrie's words,) admitted to examination on their merits practically. The power of doing this, nay, the usage, is here distinctly claimed by the College; the only addition the examiners make to our statement is, to announce that they make such admissions dependant on their private caprices, their likings, and dislikings. They discard the principle of general uniform right, which we sought to connect with such admissions, and claim to act on the principle of the imperious harridan of the *Satirist*—" stet pro ratione voluntas." If they do prove us wrong on one point of fact by a *subsequent* arrangement, they do so with no increase of credit to themselves!

Will " The Royal College of Surgeons in London" allow us—*The Medical Times*—humbly to point out to them a rather remarkable *non sequitur* in their advertisement, which makes the document if not looked on as a piece of thin skinned duplicity, a very discreditable piece of literary composition? If their motive for taking the grave step of publishing be, as they say, to correct erroneous statements, how happens it that they set about it, not by publishing old regulations, but RESOLVING on something new? Was ever Hibernicism more complete than this notion of theirs that the establishment of a *new practice* is the natural mode of correcting the erroneous impressions existing on an *old regulation?* That the way to publicly explicate a given something, is to be silent on *it*, and explanatory on *something else?* Verily, verily, the wits of the badgered Examiners seem in a sad state of *bouleversement*.

Subjoined will be found a communication which throws additional light on this curious chapter in the council's history.

THE COLLEGE REGULATIONS.

(From a Correspondent.)

We again feel ourselves obliged to recur to the new "regulation" regarding the admissions of practitioners to examinations, which if not issued in the form of a printed proclamation, has been acted upon in a number of instances. The real state of the matter is this; Mr. Guthrie writes a letter to Dr. Hastings, stating (what was absolutely true) that practitioners are to be admitted on their merits.—Gentlemen have passed and are passing according to this new arrangement. Mr. Guthrie, with his customary courtesy, states that by "the *kindness* of the Court of Examiners, practitioners are, and have been, admitted to examination on their merits without reference to the regulations in force" — Kindness! *Contempt* upon the word!—A public governing body is morally bound to frame those regulations which shall most conduce to the good of the public. What has kindness, personal kindness, to do with the business? It is justice, not "*kindness*" which we and the profession demand. But this word kindness we fear lets "the cat out of the bag."

There is dissension in the Council of the College, part holding for the admission of practitioners upon their merits and part foolishly opposed to it; whereby (in case of one single instance of favoritism being proved,) they will render themselves liable to legal prosecution. The secretary has been inundated with applications, many of which he has for many days neglected to answer, keeping thereby some men of the highest respectability in the profession in a most cruel state of suspense. But after all this what has he summoned up resolution to state, so late as last week, in answer to an application made to him, by a member of the profession, regarding his admissibility for examination?—why, that "the arrangement referred to (admitting members on their merits) was unknown to the Court of Examiners, as no regulation of the kind has been made;" thus at once throwing the accusation of falsehood upon Mr. Guthrie's statement.

As Mr Guthrie is the great mover in our close body corporate, we should advise practitioners who are in doubt about their admissibility, to write to him; no doubt he will give them every information in coincidence with the information contained in his polite and highly important note to Dr. Hastings, read to the Provincial Medical Association in July last. In the mean time, what account are the Council going to render us of their conduct? The College of Surgeons presents a most perfect specimen of disorganisation, and this occurrence, more than any thing which has yet transpired, will hasten a thorough reform of this corrupt body:—it has confirmed their downfall as a close corporation.

Will it be believed, that one gentleman, in extensive practice, had his ticket of admission sent him by the secretary, with orders to present himself for examination on a certain day, and upon so doing was refused admission, although he had the order in his hand? If this gentleman is not an ignoramus indeed, he will bring them to a legal account respecting this business.

We wait with anxiety the proclamation of the regulation respecting practitioners now on the eve of being issued.

The Secretary of the College informed several persons, that pupils of old standing would not be admitted after January, according to the old regulations. This is now contradicted by some of the College Council, and affirmed by others.

ROYAL COLLEGE OF SURGEONS LONDON.

List of gentlemen admitted members on Friday, November 25th, 1842:—

F. H. Woodforde, J. Dowling, W. Roden, H. Aylward, S. S. Smith, J. J. Gray, C. J. Newstead, M'Collinson, J. Mahony.

Bequest.—Dr. James M'Adam, late President of the Medical Board, Bombay, has bequeathed in trust to the minister and heritors of the parish of Dundonald, of which he was a native, the sum of 1,000*l.*, to be invested in the public funds, and the proceeds to be annually distributed in blankets and coals amongst the poor during winter.—*Ayr Observer.*

REVIEWS.

English Patents for 1841. By A. PRICHARD, M.R.I. &c.

THIS is the promised sequel to the author's "List of Patents granted during the present Century." The increase in the number of Patents, and the importance of knowing what are "the goods" given us by the increased enlightenment of our times, as well as those which without offending law, we can claim full dominion over, both as regards creation and use, are reasons which make this neat list very acceptable. The arrangement appears to us good: the index of subjects is copious and of easy use, and we may shortly show our practical appreciation of the utility of Mr. Prichard's labours, by transferring to our pages that portion of them which has reference to improvements in chemistry and pharmacy.

Homœopathy Explained, and Objections Answered. LEATH.—To the reproach of public taste or private veracity, this *brochure* appears from the title-page, to have reached a circulation of four thousand. The most absurd systems, if they have enthusiastic followers, are not without useful fruits. Astronomy grew out of astrology—and we are indebted for some of our most potent agents in medicine and useful discoveries in chemistry to the honest delusions of the alchemists. So to the deception, more mischievous than either, homœopathy, are we indebted for some important new lights in pathology and therapeutics, but especially for the increased attention it has directed to the virtues of a good regimen, and the importance it deservedly attaches to the *vis medicatrix naturæ*. In producing, or tending to produce these results, homœopathy has performed its mission, and the sooner we now get rid of its trying *similia* on a dying man, whose vital powers are but already too overpowered by the *simile* he already groans under, and its practising on desperate cases by infinitesimal doses, the better for the credit of common sense, and the longevity of humanity. The author before us rejects, we see, altogether, *all external applications*, as blisters, moxas, setons, &c., on the score that they are mere *palliatives*, and as such, homœopathy (the off-hand doctor!) cannot condescend to use them! The book is more remarkable for its inconsequential reasoning, than anything else. Good faith and folly go hand-in-hand. The style is better than might have been expected.

ARGUMENTS OF SURGEONS AGAINST MESMERISM.

(To the Editor of the 'Medical Times.')

SIR,—Allow me a few brief observations on the arguments which (according to your report) were employed by several of the leading surgeons in London against receiving the case of amputation during mesmeric sleep, as having been really successfully performed. Dr. Moore requires affidavits. Doctor James Johnson requires more; he has implicit confidence in the veracity of Messrs. Topham and Squires Ward, but frankly denies any belief in the veracity of his own visual sensations. To say, *I will not believe what I see*, is absurd; to say, *I will not trust your deductions from what you saw*, is reasonable. Instance: I see the sun in the East, South, and West, respectively at morning, noon, and evening; deduction The sun revolves round the earth. Visual fact true, deduction false. People never said, we see the sun revolve round the earth; mesmerizers never say, we see mesmerism act. Let Dr. James Johnson mend his phrase. Mr. Alcock says that pain may be felt but not expressed. Is this a common case? It would be unfortunate if it were, as then, serious injury might be inflicted without warning being given. But it is at times very desirable, especially during operations, in which the patient's expression of pain, is frequently the greatest impediment to the operator's hand. Grant for the moment that pain was felt, but not expressed in this case; then by performing certain motions of the hand, we are enabled to prevent the nerves of any given patient from expressing pain. Theory apart here is a most useful result;—will Mr. Alcock reject it? The same remarks apply to several of Sir B. Brodie's cases; the case in which pain in the ischiatic nerve was expressed, contrasted with Mr. Topham's case, in which no such pain was expressed, tells wonderfully in favour of the latter; especially when no such pain was even *remembered*. Sir B. B.'s concluding argument is as follows. 1. The French Academy have made a report; I believe that that report is correct; Therefore I disbelieve in mesmerism. 2. None who disbelieve in mesmerism should receive Mr. Topham's case; I disbelieve &c.; therefore I should not receive &c. 3. (And this is the grand syllogism of all.) *all medical men should think as I do*; the Medico-Chirurgical Society is composed of medical men; *therefore*—The report of Mr. Topham's case should never have been read!! Dr. Blake finds *one* girl named Ross, was so silly and wicked as to feign mesmeric phenomena, *therefore*, *all* persons have feigned; therefore &c. in Mr. T's. case!!! Mr. Bransby Cooper knowing, I suppose, how all other effects are produced on the nervous system, requires that the mesmerizers should know how the effects they report have been produced. If Mr. B. C. would inform the world how any effect is produced on the nervous system, he would confer a benefit on society. Mr. Liston, who went to hear a case of amputation, hoped to have heard one of clairvoyance! What a pity it was that Dr. Syme gratified his hope. Dr. Arnott argues: I have known fifty ounces of blood taken from one patient, cause her not to express pain; no case in which other means have produced the same effect has presented itself to me; therefore—any evidence for other means producing such an effect is inconclusive! I could parallel this argument, but it is not worth while.

Conclusion.—Without stopping to consider the ideas for which the words, imagination, stoicism, heroism, philosophy, or what not are the representatives, the learned in surgery, pronounce that imagination, &c., are real agents, and do really produce these effects, and that, *therefore*, mesmerism is a delusion. Now Mr C. H. Townshend (*Facts in Mesmerism*) has long ago shown the true meaning of this argument, and its true bearing upon so-called mesmeric phenomena; and his conclusion, which I would have considered as the moral of this letter, is, in substance, the following: granted that imagination is the real agent, mesmeric passes are the external agents whereby the imagination is excited so as necessarily to produce these results; your "imagination" is only another line in the chain of causation, and one which we have clearly no occasion to take account of: we see the mesmeric passes, we see the mesmeric phenomena, and they necessarily stand to us in the relation of cause and effect. To disprove this, it must be shown, *not* that similar phenomena have followed from different causes in different circumstances, but that different phenomena have followed the same cause in similar circumstances. I am afraid, I have already occupied too much of your valuable space, and hasten to conclude.

SYLLOGISM.

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*Extract from a Lecture on Percussion, with an Account of a New Percussion Instrument for Investigating the Diseases of the Chest. By C. J. B. Aldis, M.D., Lecturer on Medicine, at the Charlotte Street School.**

GENTLEMEN,—The subjects of percussion and auscultation, to which I am about to call your attention, are of great importance; for by employing these methods of diagnosis, you will be able to distinguish with precision, various diseases of the chest, and by their neglect, some important lesion of the lungs may be overlooked, which it will be your duty to endeavour to detect in order that you may apply the appropriate remedies. Besides when you recollect the frightful ravages, which pulmonary affections make among mankind; a fact rendering such diseases of the highest importance, I need scarcely say more to stimulate your attention to these means of diagnosis. I therefore hope that you will reflect upon the value of percussion and auscultation, the former of which will occupy us in the present lecture, and continually practice them.

Method of Percussing.—Some practitioners percuss with the fingers of the right hand, their extremities being in the same line and in a state of demiflexion, striking the chest in a perpendicular direction. Others employ four fingers of the right hand to strike—the fingers of the left hand applied to that part of the chest under examination. Piorry invented the plessimeter, a round piece of ivory to be placed on the chest and struck by the fingers for the purpose of preventing the pain, likely to be felt by some persons when the parietes of the chest are percussed. Subsequently, a light hammer having a leathern face, was brought into notice; the ivory plessimeter being struck with it by the right hand. More recently another instrument has been introduced; a handle is attached to the plessimeter, which is struck by a hammer held in the right hand.

Although percussion may seem a very simple operation, still it requires much practice, and many precautions are to be attended to. Now it is very requisite that you should produce equal sounds in comparing the opposite sides of the chest, for the slightest inequality in percussion will produce a difference in sound, and even on examining one side of the chest, we cannot place much reliance on unequal sounds.

About five years ago, I constructed a rough model of an instrument in wood with a hammer *attached* to it, having a spring handle, to be raised by the right hand, but I abandoned it in consequence of being in the habit of percussing the chest with my fingers. More recently, however, I made an outline of this instrument on paper, and thought that by means of a regulator, its elevation might be so managed, as to produce uniform sounds; for on raising the hammer it falls immediately, the spring handle touches the regulating screw, which is moveable, when it may be desirable to effect a greater or less elevation of the hammer, in order to produce greater or less uniform sound Messrs. Philp and Whisker, late Savigny, of St. James's Street, made the instrument for me.

Description of Dr. Aldis's Patent New Percussion Instrument.—The plessimeter is made of leather, moving upon a swivel, to adjust itself to the part. The percussor is attached to the stem of the plessimeter, and acts upon a joint; by pressing down the handle of the percussor, the spring throws the percussor down upon the plessimeter, the force of the blow being regulated by a screw.

* Delivered Nov. 28, 1842.

THE NEW PREPARATION OF IRON.

UNDER the name *Aqua Chalybeata*, Messrs. Bewley and Evans, of Dublin, have given us a new preparation of Iron, which possesses with the three advantages of chemical permanence, solubility, and the absence of that constipating tendency which so much interferes with the utility of the common preparations, an agreeableness of taste accompanied by a brisk effervescence which makes it as agreeable as Champaigne.

The report of an analysis by Dr. Ure, has been submitted to us which after a very satisfactory statement, is concluded with the expression of the

Doctor's belief that this preparation promises to form the *most* efficacious of chalybeate medicines. The opinion of Professor Brande is thus given in its favour.'

London, November 24, 1842.

I have examined Messrs. Bewley and Evans's new Chalybeate water, which is a solution of a citrate of iron in water highly impregnated with carbonic acid. I think that this solution will prove a valuable addition to the materia medica, and that it is likely to agree with the system, when many of the other chalybeate preparations are inadmissible: while its effervescent property and agreeable flavour render it well adapted for very delicate stomachs and for administration to children. (Signed)—Wm. Thos. Brande.

GUNSHOT WOUND.

Secondary Hæmorrhage and Ligature of the Subclavian Artery.

By William Smith, Esq., Surgeon.
(For the 'Medical Times.')

Private Mahoney, of the sappers and miners, of the British Auxiliary Legion, was wounded during the assault and capture of Irun, on the 17th of May, 1837, by a musket shot, which entered immediately under the left clavicle. In this position, passing in a straight line, it fractured anteriorly the second rib; and entering the cavity of the pleura, penetrated the superior lobe of the left lung; from thence proceeding backwards, it fractured again the posterior portion of the second rib towards its spinal attachments. After this, it pierced the body of the scapula; and coming in contact with the integuments of the back, its course was diverted downwards, until it finally lodged in the subjacent cellular tissue, below the inferior angle of the fractured bone.

For the first two days after the receipt of the injury, cold applications were applied to the situation of the wound; and this local treatment was accompanied by venesection, and saline medicine of a laxative nature every third or fourth hour. There being no wound externally, on the posterior part of the chest, I began to suppose that the bullet must have lodged in the cavity of the pleura, until on the morning of the 19th, when the patient complained to me of slight pain at the inferior angle of the left scapula. On examining the part complained of, I felt a round hard substance pretty deeply embedded under the integument, which I had no doubt was the bullet. I therefore made an incision directly through the skin, down upon the foreign body, which was extracted without difficulty.

Up to the 21st, everything seemed to proceed favourably; indeed, so much so, that without examination, any injury of the pleuritic cavity from the present symptoms could not have been supposed. At this time, however, the symptoms of inflammation became apparent, and much constitutional disturbance supervened. The pulse became full, strong, and accelerated, the breathing laborious, the urine high coloured, and diminished in quantity; whilst at the same time there was considerable pain in the superior portion of the left lung, and the situation of the wound. The local and constitutional symptoms of incipient pneumonia were present. On the presentation of the above, venesection was performed to the extent of lbij. which produced much relief. The bowels immediately after were freely opened; and the symptoms progressed favourably until the forenoon of the 24th. On that day about 11 a.m. I was informed by the ward orderly, that Mahoney was bleeding profusely from the wound on the anterior aspect of the chest. On receipt of this information I proceeded immediately to his bed, and found the orderly's statement correct. I examined the wound, and removed several clots of blood, which filled it in part and shewed the hæmorrhage to be of a venous character. On introducing my forefinger along the course of the wound, the subclavian artery could be distinctly felt pulsating under the clavicle; and it was my impression at the same time, that the hæmorrhage proceeded from the subclavian vein. I now applied a few folds of cloth soaked in cold water to the shoulder; which had the effect of stopping the hæmorrhage almost instantaneously; and as the quantity of blood lost was not great, and as it was also of a venous character, I reported the case to staff-surgeon Gannon, hoping there might be no more cause for alarm. All seemed, after arresting the hæmorrhage, to go on favourably with Mahoney; the untoward symptoms of pneumonia with which he had been previously seized, had been apparently much benefitted by the accidental hæmorrhage; and it was thought, that a gun-shot wound of the pleuritic cavity in this case had a fair chance of being enumerated amongst one of the cures. Our hopes, however, were not doomed to be verified. On the morning of the 26th, at ten o'clock, the hæmorrhage again resumed, perhaps to the extent of one pound, before it was arrested by cold applications similar to those used in the first instance. A brief consultation was now held on the case; the medical officers present, being staff-surgeon Gannon in charge, assistant-surgeon Brery and myself. The case was a puzzling one. There was no doubt but that the subclavian vein had been originally injured, and now ulcerated; and such being the case, it was difficult to say whether or not, the subclavian artery was altogether safe. Unless, however, the hæmorrhage should be arrested, there could be no chance of the patient's life being saved; therefore a doubtful remedy was resorted to, in preference to none at all. To tie the vein would have been a novel, and according to surgical practice, a dangerous proceeding; and even if it should have turned out successful in itself, it was very questionable whether the artery was uninjured. For this reason in order to meet the hæmorrhage at all points, I proposed, in case it should recur again, to tie the subclavian artery at the point where it passes over the first rib. To this proposal, after many doubts on the success of the measure, Messrs. Gannon and Brery consented; provided nature should seem determined to show the patient no mercy. According to our resolution the opportunity for operating was not long delayed. On the following day, the 27th, about 11 a.m., the hæmorrhage recurred; and the operation was proposed by me, and assented to by the patient, in a few minutes.

The patient was not removed from his bed, but simply placed in the most favourable position with pillows; and with the able assistance of Mr. Brery, I began my operation. An incision was made above the clavicle, through the skin and subjacent cellular tissue, commencing at the clavicular attachment of the sterno-mastoid muscle, and extending on a line nearly parallel to that bone, outwards to the distance of nearly three inches. From the sternal extremity of this incision, a second was made upwards, on a line parellal to the external margin of the sterno-cleido-mastoid, to the extent of two inches; and the angular flap was dissected backwards from the union of the two incisions. The cervical fascia was next cut through; and the subjacent adipose substance pressed aside with the handle of the scalpel, until the scalenus anticus made it appearance, crossed by the omo-hyoid muscle. The cervical plexus was then pressed gently backwards; and I placed my finger anterior to this, upon the first rib; but contrary to my expectation, could neither feel the artery nor its pulsatory motion. This circumstance annoyed me the more, as I deemed my incision sufficiently large and clear of blood; but being certain I was in the usual situation of the artery, I took Weiss' spinal aneurismal needle, and placed its point upon the superior margin of the rib, anterior to the plexus, and as I judged, behind the artery. Then pressing it firmly forward a few lines, taking care to keep its point still in contact with the margin of the rib, I turned the same upwards by a rotatory motion of the handle; and the former made its appearance, elevated near the centre of the wound. On keeping the handle in the same position, and pulling the needle gently upwards, I discovered the subclavian artery lying on its spiral curvature. I now made certain that this was the case, by pressing firmly between my fingers and thumb, the vessel and the needle together; this proceeding immediately stopped the pulsation in the wrist, which before, was free and perceptible. The vessel was now tied, and the wound closed without the loss of one ounce of blood during the operation.

The patient stood the operation well, and for the first six hours, complained of nothing particular, save a slight numbness of the left arm, fore-arm, and hand. At the end of this time, however, his breathing became somewhat laborious; and this untoward symptom continued to increase in such a manner as to prove, that the termination of the case would be fatal. The patient died twelve hours after the performance of the operation. After the application of the ligature, however, the hæmorrhage was completely arrested; and had the lung been less injured than it presented itself on dissection, the chances would, there is every reason to believe, have been in favour of the patient.

Sectio Cadaveris.—twelve hours after death.—The pleura costalis and pulmonalis were firmly united by old adhesions, on the left side of the thorax; and the superior lobe of the left lung was penetrated by the bullet from before backwards. The second rib of the same side, was fractured anteriorly aad posteriorly; and spiculæ of its anterior portion were found imbedded in the parenchyma of the lung. For a considerable distance around the wound, the lung presented the appearance of sphacelation. The subclavian vein was ulcerated, and presented a ragged opening communicating with its canal, in the situation of the wound, below the clavicle, from whence the blood had issued. The coats of the artery at the same point were inflamed, and presented a black spot in the centre of the inflamed surface. The other viscera were healthy. The artery was sound at the point on which the ligature was applied.

157, Bishopsgate Street, Without.
October, 26, 1842.

PERISCOPE OF THE WEEK.

Statistics of Phthisis.—Dr. Briquet, of the Hopital Cochin, in Paris, gives the following as the result of careful observations:—Of 609 individuals who had died in the hospital throughout the years 1838, 1839, and 1840, 182 had succumbed under phthisis, of whom 91 were males and 91 females; while 427 (204 male and 223 female) died of other diseases. It would appear, therefore, that taking into account the whole number of individuals dying in the hospital, the mortality from phthisis was about one-tenth greater among males than females.—Of 98 phthisical patients, 30 were descended from parents who had suffered with the same disease; and out of 88, 47 had been brought up in towns (24 in Paris) and 41 in the country, hereditary predisposition having been as frequent among the

latter as the former.—24 patients were tall, large built, and corpulent, 9 tall and slender, 15 diminutive and meagre; the rest were of medium height and make. 33 were naturally of a robust, and 21 of a feeble constitution; and the rest were of intermediate vigour.—As to temperament, some curious particulars were remarked. Out of 65 males, 29 were dark complexioned, with dark hair; and 36 were fair, 4 of whom had white, 4 yellow or reddish, and the remainder chesnut-coloured hair. Of 37 females, 8 had dark hair and complexion, and 29 were fair, nearly all having hair of a chesnut hue. Out of 75 male patients not attacked with phthisis, 29 had both the hair and skin dark, and 46 were of a fair complexion, 12 having light, and the rest chesnut-coloured hair; while of 50 females, also not phthisical, 26 had dark skin and hair, and 24 a fair complexion, 2 having yellowish, 4 white, and 18 chesnut-coloured hair.—In 63 out of 70 patients, the extremities of the fingers were more or less abnormally developed, or the nails curved (*scutiformes.*) In 85 cases the conformation of the thorax was particularly noticed: in 37 it was well formed; in 48 altered more or less from its natural shape.—Out of 94 patients, 31 were little subject to catarrhs, while the remainder were more or less liable to take cold readily, and 9 had been accustomed to a cough from infancy. Those born of phthisical parents seemed not to be more liable to take cold than others. Of 37, 15 were particularly apt to suffer discomfort from a cold atmosphere; but here again, those of phthisical descent were not more liable than the rest.—As to the age at which phthisis usually makes itself manifest,—in three-fifths of the cases, it is, according to M. Briquet, between the ages of 20 and 35 years; and in most of the remaining cases, between 35 and 50 years of age. The mean age at which the patients descended from parents subject to phthisis were first attacked, M. Briquet found to be 27; while in those in which the disease was not proved to be hereditary, 31 years of age was the mean of its first appearance. The distinction of sex appeared to make no difference in this particular. Of 98 cases, 30 supervened during Dec., January, and February; 24 in March, April, and May; 20 in June, July, and August; and 24 in September, October, and November.

New Means of Vomiting.—Dr. Marshall Hall recommends the following means of producing vomiting in cases of poisoning. It frequently happened that we were called urgently in such cases without possessing an emetic, an antidote, or the stomach-pump. What was to be done? Call in aid the excito-motory principle. We see the sailor lying across with the stomach pressing on the yard-arm, yet he does not vomit. The cardia is closed, effectually closed, against such pressure. On the other hand, we often see a patient, especially when under the influence of a narcotic poison, attempt to induce vomiting by irritating the fauces, in vain. In the latter case there are, however, frequently ineffectual heavings and attempts to vomit. Use, then, these efforts to remove the poison. During these efforts the larynx is closed and the cardia opened; it is the insufficient action of the abdominal muscles which renders the attempt to vomit abortive. At this moment, if we apply forcible pressure to the abdomen, the stomach is emptied. That pressure, augmented at intervals, produces the effect of pressure applied over the distended bladder, after introducing the catheter: the stream is proportionately augmented. "I have seen," says Dr. Hall, "when the stomach-tube has been introduced, a similar effect. The tube has irritated the fauces, and the cardia has been opened in con equence, whilst an effort of vomiting has been induced. This, though slight, has caused the contents of the stomach to pass both through and by the sides of the tube, and external pressure has produced the same effect as before. It is this *simultaneous* irritation of the fauces and pressure on the abdomen, that I propose for the treatment of poisoning. It will succeed, I believe, in those cases in which emetics would succeed. It is always at hand, the stomach-pump being reserved for those cases which are strictly appropriate to its use, or to complete what this has left imperfect. The patient may be placed leaning with the stomach over a chair, protected by a pillow, whilst the fingers are introduced to irritate the fauces."

Diseases of the Heart.—According to M. Tanchon, tumours of the female breast increase with the progress of civilisation. Thus, in the department of the Seine, during the year 1830, 668 persons died of cancer; in 1840 no less than 889, being an increase of from 1.96 to 2.40 per cent, on the total mortality during that period of 382,851 individuals. In Paris, the number of deaths from cancer in 1830 was 595; in 1840, 779, giving a mortality of 2.51 per cent on the deaths; while in the rest of the department the deaths were—in 1830, 73; in 1840, 110; or 1.63 of the total number.—M. Tanchon proposes various means for arresting the progress of tumours of the breast. He speaks strongly against excision and the use of caustic substances. Amongst other means, he proposes pressure, together with the use of the following substances, which are applied in little bags:—Ioduret of potassium five parts; powdered sponge, ten ditto; hydrochlorate of ammonia, forty ditto; hydrochlorate of sodium, ten ditto; or a powder composed of powdered sponge, twenty parts; nitrate of potass, one ditto; Florence iris, one ditto. Thirty patients were treated in this manner, and all seemed to be very considerablyimproved. In some cases the mammary gland disappeared altogether; in most only a remnant of it was left, although several of the patients had been advised to undergo an operation before the treatment had been commenced; it was not found necessary to have recourse to the knife in any instance.

Inoculation of the Measles—Dr. M. Von Katona, of Hungary, after renewing the experiments of Dr. Howe and Speranza on this subject, speaks highly of the value of inoculation in dangerous epidemics. He says, in 7 per cent, of the cases the inoculation failed, but the remainder took the disease, which ran its course in a very mild manner, strikingly different from the disease as it prevailed at the time. In no instance was the disease thus communicated fatal. The inoculation was performed in the same way as for small-pox, by taking some fluid, mixed with blood, from underneath the efflorescence. A red areola formed round the point of insertion and then gradually declined. About the seventh day, fever and the usual premonitory symptoms of measles set in; on the ninth or tenth day after inoculation, the eruption appeared and ran its usual course but in a very mild manner. On the fourteenth day the fever commonly declined, and on the seventeenth (or seven or eight days after the eruption) the patients were convalescent.

Treatment of Rheumatism by the Sulphate of Quinine.—Twenty-three patients labouring under acute rheumatism were submitted by Dr. Briquet, Paris, to treatment by the sulphate of quinine, they were not selected cases. During the first day of treatment the patients took (according to sex, age, constitution, &c.) from four to five, or six, scruples of sulphate of quinine in eight ounces of gum emulsion. The mixture was given in tea-spoonfuls every hour, so that the whole was taken within the twelve hours. On the following day the same dose was administered in the same way. On the third day, as the symptoms were almost constantly greatly relieved, the dose was gradually reduced by one or two scruples daily. The period of treatment was generally six to eight days, during which the patients took from an ounce to an ounce and a quarter of sulphate of quinine. The medicine was usually given in the form of mixture; but when the patient expressed any dislike to it, the form of powder or pills was selected. The auxiliary means employed were a decoction of borrago for drink, opiate poultices, and absolute rest. Of the twenty-three patients, fifteen were males, nine females, from twenty to thirty years of age; one-third were strong, the remainder weakly and of lymphatic constitution More than one-third had been subject to rheumatism, and nearly one-fourth had symptoms of chronic pericarditis. On an average, when admitted into hospital, the pain and swelling of the joints had existed for from three to four days. They all, with one exception, began to take quinine on the day after admission; at this period, in two-thirds of the cases, the complexion was a straw-yellow colour; tongue white and moist; great thirst; no appetite; in a few, diarrhœa and cough. In about a fourth there were evident signs of recent or chronic pericarditis; in four the pulse was 60 to 65; in thirteen, 70 to 80, or 90; in six, from 110 to 120. In all the presence of rheumatism was indicated by severe pain, with tumefaction and tension of the joints; heat and redness of the skin, and enlargement of the neighbouring veins. In some the inflammation was of a phlegmonous character; in others there was merely hydarthrosis; in others muscular pains The number of points simultaneously attacked varied from four to twelve. After twenty-four hours treatment all the patients,except four, experiencedveryconsiderable relief of their symptoms. In one the local symptoms completely disappeared after forty-eight hours; and the same occurred in fourteen patients during the course of the third day. In six patients there was no sign of local disease on the fourth day, so that at this period all the patients, except two, were cured; of the latter, one was a young female labouring under general acute rheumatism, which persisted up to the seventh day; and the other, a young man who refused to continue the treatment, on the fifth day. By complete disappearance of the symptoms, M. Briquet means complete absence of pain and tumefaction, with restoration of the movements of the affected joints. It was not observed that the date of attack, when the treatment was commenced, had any influence on its efficacy. A relapse took place in two cases only; and the only example of failure was one of rheumatic affection of the wrist-joint

Nature of Tubercles.—The elements of the blood, says Mr. William Addison, visible by the microscope, without any manipulation, are—1st, The red corpuscles; 2d, the colourless corpuscles; 3d, molecules and granules in the interior of the colourless corpuscles; 4th, similar molecules and granules isolated in the liquor sanguinis, and independent of the corpuscles; 5th, the fibrine, which may be seen by the microscope coagulating in the form of delicate cylindrical fibres, having a diameter even less than that of the molecules. The fi-

brine does not form globules or corpuscles of any kind. Molecules, granules, and colourless corpuscles, enveloped in a net-work of fibrinous fibres or filaments, with variable quantities of entangled serum, form the entire mass of the buffy coat of the blood. The phenomena displayed on the addition of liquor potassæ (Brandish's alkali) to the blood corpuscles are very remarkable; the first effects of the fluid are very rapid and energetic; after a short time, by following the directions given in the paper, the alkali may be observed slowly diffusing itself among the corpuscles. The red corpuscles may be seen to explode and disappear instantaneously, or to burst open gradually, and discharge their contents, and many singular changes of form may be witnessed. The colourless corpuscles may be completely and slowly dissected by a proper application of the liquor potassæ—all the stages of the process and the number and nature of their contents may be readily seen by the microscope. For this purpose, a drop of the liquor sanguinis from the surface of buffy blood is removed by the point of the finger, and transferred to a slip of glass, previous to coagulation; it should be spread out on the glass, and the liquor potassæ cautiously added from the point of a penknife or a lancet, while the corpuscles, without any covering, are under examination. This manipulation, with a little practice, may be readily accomplished with one of the small upright french microscopes, and by moving the slip of glass gradually forward, the progress of the alkali may be watched for some time. Rapid changes take place; molecules and granules are developed in the interior of the corpuscles, which enlarge by imbibition, and then dehisce or explode, the molecules and granules pouring out of them in great numbers; if the alkali be acting weakly, the molecules swell to granules, and the granules enlarge previous to their final disappearance by dissolution in the liquid. Pus corpuscles differ in no respect from the colourless blood corpuscles, except only as they are altered in size and appearance by exhaling their own contents, or by imbibing the fluids with which they are associated. Water and the dilute acetic acid cause them to enlarge, developing the molecules and granules in their interior. The effects of the liquor potassæ upon them are very singular and instructive. On the application of this liquid, the corpuscles immediately begin to enlarge by imbibition; a great number of granules become exceedingly conspicuous within them; finally, they burst open or explode, and the granules are dispersed around. Several cases and experiments are minutely detailed in corroboration of the foregoing statements, from which the two following are selected:—*Case of Shingles.*—One of the clear transparent vesicles was opened with the point of a lancet, and a great number of colourless blood corpuscles was found by the microscope in the fluid. Many of them exactly resembled the corpuscles in the blood; others appeared a little shrivelled, and a few were remarkably large. All of them contained molecules; the large ones had several bright granules, which, on close inspection, were evidently moving within them that is, the granules disappeared in one part of the corpuscle, and became visible in another. This was repeated several times during the observation, apparently from the working ("*writhing*") or undulation of a fluid, which, by alternately dividing and coalescing, and then again dividing, formed the granules, which were sometimes visible at one spot, and then at another. The author has seen similar phenomena in the inner vesicle of the red corpuscles after the addition of a drop of gum water.—A little water was now added to the corpuscles from the point of a lancet: after a few minutes the shrivelled corpuscles became quite plump. Liquor potassæ was afterwards added very cautiously in the same way, and the corpuscles, one after another, dehisced. At first they gave a sudden jerk, and enlarged to twice or three times their former dimensions, displaying the granules in their interior; and then they burst open by a kind of explosion, each corpuscle discharging about twelve large granules, which were gradually dissolved.—*Case of troublesome catarrh (hay-fever.)* Copious discharge of clear transparent fluid from the nostrils; a perfectly limpid drop of the mucus was examined by the microscope, and I was somewhat surprised to find in it a great number of colourless corpuscles, resembling the colourless corpuscles of the blood. There were, indeed, corpuscles of all sorts, forming a complete series, with gradual transitions, from the colourless blood corpuscles through all the forms and varieties of pus corpuscles, up to large, round, granulated corpuscles and epithelium cylinders. My astonishment was great when I found most of these corpuscles provided with vibratile cilia in the most active state, so that some of the corpuscles were actually moving about by their means; and not only were the cilia in motion, but the molecules and granules in the interior of the corpuscles were in a very active state; they could be seen rapidly shifting their position within the corpuscles.—I examined no less than six different specimens of the mucus from the same individual, and I always saw a series of similar objects.—*Case of Cancer of the Breast* (existing some years.)—Arm œdematous; the back of the hand had been punctured some weeks ago to relieve the swelling, and a serous fluid has been discharged from it ever since. The author frequently examined this fluid by the microscope, and always found in it a fibrinous coagulum, and corpuscles resembling in every particular the colourless corpuscles of the blood, somewhat altered by shrivelling. When the arm was cool and free from pain, the fluid discharged was perfectly limpid, as colourless as spring water, but corpuscles were found in it; and after standing ten or twelve hours, a delicate but almost invisible net-work of fibrine could be drawn out of it with the point of a needle. Sometimes the arm, without any obvious cause, became much more red, swollen, and painful, and then the discharged fluid had the appearance of ordinary serum; the number of corpuscles was much increased, and the coagulum was more dense. On the addition of water the corpuscles swelled out and enlarged; with liquor potassæ they burst open, discharging large granules. From the result of this and other experiments, it is evident that the serous fluids effused in dropsies differ from the serum after venesection; they contain fibrine and corpuscles. The fluid at the surface of inflammatory blood is the liquor sanguinis, highly charged with molecules, granules, and colourless corpuscles; it is a strong solution of fibrine. The limpid fluids discharged by œdematous swellings are of a precisely similar nature, with a less quantity of fibrine and a less number of corpuscles; the varieties of coagulable lymph are intermediate between the two extremes. All abnormal discharges, and all the varieties of serum and coagulable lymph, are modifications of the liquor sanguinis—stronger or weaker solutions of fibrine. All the varieties of pus and lymph corpuscles are more or less altered colourless corpuscles altered either by imbibing and growing larger, or by exhaling, shrivelling, and becoming less. In fact, all abnormal products are effusions, and not secretions.—The foregoing experiments (here briefly stated) are brought forward to strengthen the conclusion which it is the author's object to establish,—viz., that all secretions take place in the interior of granulated vesicles or cells, not by transudation from one tube (a bloodvessel) into another (a duct;) consequently that "tubercles in the lungs," "tubercular infiltration," "hepatisation," and "pus," are not secreted products, but simply the elements of the blood effused by an excessive "vital turgescence" (or inflammatory action,) having their peculiar characters determined by the texture and function of the structure, and by the amount of activity of the turgescence.*—A singular fact is stated with regard to the animalcules; it may be witnessed in all of them by the application of liquor potassæ (which the author calls his dissecting fluid.) It penetrates the transparent tunic composing the body of the animalcule, by imbibition, and soon causes it to burst open or explode, precisely in the same way as the colourless blood or pus corpuscle; and the so-called stomachs of the creature are forcibly discharged, or thrown out one after another, thus becoming objects for minute microscopical scrutiny. The stomachs (?) swell and burst in like manner, precisely as the granules discharged from the lymph corpuscles of the frog, or from the pus corpuscle. These stomachs the author believes to be granulated vesicles, performing their functions by imbibition, and not by assimilating or digesting food voluntarily taken. The vital powers of the animalcules are totally inefficient in opposing the imbition of the poison, and their stomachs may be seen enlarging in the interior of the body prior to the rupture of the integument.

The Abdominal Aorta Tied.—The following statement is derived by a correspondent from an article in the *Journal de Commercio*, August 7, 1842:—"On Friday, July 5th, at No. 13, Rua das Violas, the abdominal aorta was tied, for the first time amongst us, immediately above its bifurcation, without doubt the boldest operation in surgery, and carried into effect in England only by Astley Cooper and James, without any favourable result. Nevertheless, the patient, A. M. Cardozo, seemed to be overcoming the terrible consequences that it was supposed would follow. The operator, was Dr. Candido Borges Monteiro. For about a week after the operation the patient was seemingly getting better, but they could not consider him out of danger for at least twenty days,"—not to live, however, for he died on (I think) the 15th. The body was taken next day to the School of Medicine, and examined by the operator, in presence of a number of medical men, when they found that everything had been rightly performed, the case only affording another proof that the result must necessarily be fatal.

MEDICAL NEWS.

The Numerical Method.—M. Trousseau, in his recent public "*Discours*," thus speaks of this system:—"The numerical method, which has for its base, statistics, and which was first introduced into 'Hygiène' by Parent du Châtelet, was applied to the study of pathology and therapeutics by a man equal to all praise. It recognizes the absolute power of figures. The physician must impose silence on the imagination; he analyses, counts, and registers ri-

* The author refers to Mr. Goodsir's paper, and corroborates his opinion with respect to secretion.

cidly results,—he does no more, no less. It applies to medicine the doctrine of probabilities in all its rigour. I make this no matter of reproach; for we cannot systematize without counting—but I do reproach it that it *only* counts, that it counts too much, too long—and ever—and excludes all *mind* in things. It is the scourge of intelligence: it makes a physician a counting clerk. Its boast, the exclusion of the intellectual faculties, is its condemnation." He goes on to remark, that in effect the numerical system is but the system usually followed, decked out with a parade of figures instead of terms equally expressive (*ex. gr.* 90 in 100, instead of the old term "almost always," &c.), that the observations are all conflicting, varying in different places with every observer, and considers that its principal utility are the habits of exactitude it encourages.

A Harmless Specific.—An old physician is now living in Paris, who unlucky in practice, set about establishing a patent medicine. Restrained somewhat, if not by a sense of decency, by one of morality, he determined on using a remedy which, if it did no good, should at least do no harm—and therefore fixed on "distilled water," which, under a grand name, was duly puffed; and became a medicine of very general requisition for an infinite variety of maladies. The certificates that poured in upon the surprised inventor, were beyond number, and spoke of cures the most marvellous, performed in the most marvellously short time. But the greatest wonder of all was, the revolution produced in the physician's own opinion; for after making an ample fortune by the medicine, he continues to sell it (after the need that led to its introduction is gone) in a conscientious belief that it is in truth a sovereign remedy, the salts and other foreign principles in the water in common usage, being now thoroughly believed by him to be the source of two-thirds of chronic maladies. M. Trousseau, who relates this anecdote, deduces from it a lesson of greater reliance on the curative powers of nature, especially when untampered with, insinuating with the satirist, that our business in general is but to amuse the patient, while we allow nature to cure him.

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SUMMARY.

LECTURES ON CHEMISTRY.

By JOHN SCOFFERN, M.D., Lecturer on Chemistry, at the Aldersgate School of Medicine.

I purpose in this lecture, examining some of the important relations which obtain between the three agents , heat, electricity, and magnetism.—This is a subject of intense and still increasing interest, but its connexion with the science of chemistry is not sufficiently intimate to warrant our devoting more than one lecture to its consideration. Let us begin by examining the connexion which exists between electricity and heat,—whence has arisen the term "*thermo electricity*."

If a ring of any metal of equal size, and homogeneous composition, be heated at one particular point, no disturbance of electric equilibrium takes place ; but if its size be not equal in every part, or if previously to its formation into a ring, a knot had been made on any part of its future circumference, then electricity would have circulated from the point heated to that part where there might exist the least amount of obstruction. If instead of employing *one* metal with this knot or enlargement, two metals be employed, electric disturbance, under the same circumstances of heating, again results, and in proportion as the molecular constitution of the metals vary, so does the intensity of the results increase. Now, as a general rule, the molecular constitution of metals is such that they crystallize in the cubic or tessular system ; antimony, however, crystallizes in rhombohedrons, and hence is capable of forming a thermo-electric combined with almost any other metal ;—bismuth being generally preferred. In order to form a thermo-electric combination the two metals must be soldered together at one end, and in order to develop the usual results, heat must be applied at their point of juncture, when electricity will be determined from the antimony towards the bismuth.

Such a thermo-electric apparatus as I have described is far too devoid of power for the development of any brilliantly marked results, but the ingenuity of Nobili devised a compound instrument which stands in the same relation to the simple one that the pile of Volta did to the powerless instrument of Galvani. The instrument to which I allude, consists of several combinations of antimony and bismuth, instead of one of the metals, being soldered together at opposite extremities, and separated from each other by some insulating materials, (I believe in practice, the substance employed is plaister of Paris,) the minute interstices of which are filled with melted lac. Without going more into detail relative to this or other thermo-electric combinations, suffice it to remark, that when heated at the points where the two metals join, there is set up an electric current, which yields under proper conditions a spark and other results, fully establishing its identity with electricity from other sources.

A slight examination of these facts cannot fail to enlarge our ideas of natural electrical excitation. We know that the crust of this planet is composed of numerous materials placed in opposition with each other, and granting that any source of heat be applied in any unchanging direction—there will be generated a current of elasticity unchanging in its direction too. From this it would not be unreasonable to suppose, *à priori*, that, inasmuch as the earth is heated in the direction of east to west by the Sun's rays, that an electric current is also set up in that direction ;—that such is the case, is in accordance with observation and experiment, as we shall presently see. I wish to impress this most firmly in your minds, inasmuch as it is intimately connected with Ampère's theory of terrestrial magnetism. With this passing notice, I must dismiss this subject to enter upon the consideration of electricity and magnetism, as regards their mutual relations to each other.

The early electrical experimenters were struck with the similiarity which obtained between some of the effects of their agent, and those of magnetism: indeed, the first detailed account of electrical attraction and repulsion, was given in a treatise on magnetism; and a kind of vague idea soon after became prevalent, that the electric attractions and repulsions were identical, although experiment failed to afford the necessary demonstration. It is a very well known fact, that flashes of lightning have, on several occasions, produced variation in the magnetic direction. Several authentic instances of this effect are on record ; for example—it is related in the *Philosophical Transactions*, Vol. XIV., p. 520, that the ship Alexander, when in lat 48 deg. encountered a violent thunder storm. The mast was struck by lightning, which also reversed the poles of all the compasses in the ship; —a change which was not discovered until the ensuing night, when the stars appeared, and it was found that they had been steering in an opposite course to which they intended. It is also stated, that in one of the compasses the end which had before pointed to the north now pointed to the west. Again, another instance is mentioned of a flash of lightning having passed through a box containing a great quantity of knives and forks, melting some, and scattering the rest about the room ; those which remained were converted into powerful magnets. In imitation of these phenomena, strong shocks were passed through steel and iron bars, by means of electrical batteries, by which treatment, magnetic effects were certainly produced ; but the results were so capricious and irregular, so little under the operator's control, or in accordance with known laws, that they led to no useful deduction.

D'Alebard imagined that electric currents imparted northern magnetic polarity where they entered, and southern polarity where they left an iron bar ; and this result was presumed to be quite independent of the needle's position, with regard to the magnetic poles of the earth. Wilke, on the contrary, imagined that he could trace a connection between northern polarity and the place where the electricity left ; thus you will see how little, up to this period, were the opinions of experimenters in accordance.

In the year 1774 the following question was proposed by the Electoral Academy of Bavaria, as the subject of a prize dissertation. Is there a real and physical analogy between electrical and magnetic forces? and, if such an analogy exist, in what manner do these forces act upon the animal body? The essays received on that occasion were collected, and published ten years afterwards by Professor Van Swindon, of Franeker, the author of one of the essays, for which the prizes were awarded. The conclusion to which he arrived after a long and elaborate discussion on the subject was, that the similarity between electricity and magnetism amounts merely to an apparent resemblance, and does not constitute a true physical analogy ; whence he infers that these two powers are essentially different, and distinct from one another. The opposite opinion, on the other hand, was maintained by Professors Steiglehner and Hubner, both of whom contended, that so close an analogy as that exhibited by these two classes of phenomena indicated the effects of a single agent. About the year 1777, the celebrated Beccaria engaged in a similar investigation, and although he, like his predecessors, failed in discovering the true nature of electro-magnetic influence, he observed that a needle through which an electric discharge had been sent, acquired a curious species of polarity, not turning north and south, but east and west. However, he did not follow up the train of inquiry indicated by this important fact. As philosophers had hitherto operated unsuccessfully with concentrated electricity, there were some who occupied themselves with this agent in a more tranquil form ; still, however, without success. Magnetic needles when charged with electricity were found to have the same influence on each other as when uncharged, hence it seemed that *quiescent* electricity, at least, was totally unconnected with the magnetic agent. The result of these experiments was, to diminish the belief in the identity of the two agents. True it is, argued philosophers, that violent discharges of electricity have generated magnetic properties, but their agency is most probably mechanical, and therefore, analogous to the effects of a smart blow, which, when applied to an iron bar in a particular direction—is known to develop magnetism.

When the disc- - ry was made of eliminating electricity by means of voltaic arrangements, philosophers were enabled to prosecute their electro-magnetic experiments under a new aspect, and then some advances were made towards a solution of the mystery. Ritter asserted, that a needle composed of silver and zinc, arranged itself in the magnetic meridian, and had been slightly attracted and repelled, by the pole of a magnet. He also stated, that, by placing a gold coin in the voltaic circuit, he had succeeded in giving it positive and negative electrical poles; and that the polarity so communicated was retained by the gold after it had been in contact with other metals, and appeared, therefore, to partake of the nature of magnetism. These experiments caused their author to entertain some vague idea that electrical combinations, when not exhibiting their electrical tension, were in a magnetic state; and that there existed a kind of electro-magnetic meridian, depending upon the electricity of the earth at right angles to the magnetic poles. Amidst much that is incorrect in the account just mentioned, it is yet evident that Ritter just discovered the first indications of true electro-magnetic influence; but in this state he left the subject, and so it remained until the discoveries of Professor Œrsted, in the year 1813. During his speculations on the subject, this philosopher was led to believe that, if galvanism were a form of electricity more latent than that from the machine, so magnetism might be nothing more than electricity in a still *more* latent form. I confess it is difficult to understand the tendency of this reasoning, but, at all events, it directed Œrsted to his brilliant discovery, of the mutual influence of electric currents, and magnets placed in the vicinity of each other. I do not know anything more difficult to describe than the direction of magnetic disturbance, under those conditions, although no experiments are so easily performed, nor, when performed, so easily remembered. A voltaic arrangement of one pair of four or five-inch plates is all the power required; and in order to prepare it for our electro-magnetic experiments, nothing more is necessary than to connect its two *virtual* extremities by a wire. This being done, we place a magnetic needle in various postures, with respect to this wire, and notice its various deflections. First, I place the magnet under the wire, and parallel to it; tell

north pole of the magnet being towards that end of the battery from which the electricity comes,—immediately you observe the north pole of this magnet turns to the right, until the whole magnet stands *pretty nearly* at right angles to the communicating wire. By altering the original position of the magnetic poles with relation to the current, a contrary result takes place, as also occurs when the magnet is held above, instead of below, the wire. If, instead of making the whole needle parallel to the conducting wire, only one pole be caused to approach them, it will be either attracted or repelled, according to the direction in which the current flows along, or to the pole which is approximated. It is difficult to view these experiments without imagining the conducting wire to be, so long as it transmits electricity, actually a magnet, and therefore necessarily affecting another magnet, according to the well known laws, that opposite magnetic poles are mutually attractive, and *vice versâ*. Now this, in reality, seems to be the case; for if I apply to the conducting wire, thus circumstanced, a few iron filings, the latter adhere. This fact, I believe, was first casually noticed by Sir H. Davy. In order to number easily the position in which a magnetic needle would be deflected by an electric current influencing it in any given direction, it is usual to avail ourselves of the following *memoria technica*, suggested first, I believe, by M. Ampère. Imagine that your own body transmits the influencing electric current: that the latter enters at your head, and proceeds towards your feet, and that, moreover, you hold in your hands in front of you a magnetic needle, with its north pole pointing to your head:—under these circumstances the magnet will arrange itself transversely to your body, with its north pole towards your right hand. The simple experiments just shown you, are in reality all that are actually requisite for illustrating the first principles of electro-magnetic agency. The motions which can be affected by means of this force are exceedingly complex and numerous, but they cannot be said to fall under the dominion of chemistry. It must be evident that, before a magnetic needle can be affected by a current of electricity, it must overcome its natural directive tendency. Hence, for delicate experiments, a magnetic needle used thus is usually rendered devoid of all or very *nearly* all directive tendency whatsoever, by mounting it on a pivot in association with another needle whose poles are in opposite directions to its own. Magnetic needles thus arranged, are termed *astatic*. If, instead of transmitting the electric current through one wire, many be employed,—or, what amounts to the same thing, if one wire be bent into several coils,—a magnetic needle freely suspended in the centre of such a coil will be deflected in proportion to the number of revolutions made by the wire. An instrument, such as this, is called a galvanometer—perhaps the term galvanoscope would be more appropriate. Within a certain limit (about 30 deg.) the angle of deflection is directly proportionate to the quantity of electricity which passes; beyond this, the connexion between the two follow a more complicated law, which does not fall within the province of any lecturer to demonstrate.

We next have to settle the question, if possible, why electric currents deflect a magnetic needle in the peculiar way first indicated? Nothing can seem more anomalous at first sight than the direction in which an electric current acts upon a magnetic needle; a direction which appears to be at right angles to the force applied; but more attentive observation leads us continually to suppose, that electricity, under many circumstances, traverses bodies in a helical direction, although it appears to go straight on. We are led, moreover, to believe, that all bodies thus traversed by electricity are magnets, and that the natural loadstone or magnet, so called from Magnesia, where it is found, has such currents of electricity naturally circulating in it. Every experiment which we can devise with the view of settling this question seems to do so in the affirmative. The first I shall point out to you is the following.—I take a helix of copper wire, and place within it a common sewing needle, folded in paper; now I pass several discharges of a Leyden jar through this helix, and on taking out the needle I find it does not attract either end of a magnetic needle indifferently; hence it must be *itself* a magnet.

If instead of machine electricity, I employ that emanating from a voltaic battery, and pass it through an insulated helical wire surrounding a piece of soft iron bent in the form of a horse-shoe, the latter becomes a magnet of most enormous power. It is remarkable that soft iron easily assumes this power, but loses it again immediately that communication is broken with the battery,—whereas steel, although assuming it more tardily, becomes an instrument of great permanency.

In order to bear out the theory of magnetism, which we have been just discussing, not only should magnetism be capable of development by electricity made to circulate in a helix, but by reversing completely the conditions, we should expect that electricity would be capable of development from a permanent magnet. Such, indeed, is the case, every time the armature of a horse-shoe magnet is approximated to it, or removed from it, a current of electricity is set up, and by using Saxton's magneto-electric machine, which consists of a strong horse-shoe magnet, before the poles of which an armature revolves with great rapidity, there may be developed electricity capable of generating all the most usual effects of this agent. You will see, then, that the term *magneto-electricity* is just the converse of *electro-magnetism*.

I will conclude this very interesting subject by drawing your attention to Ampère's beautiful theory of terrestrial magnetism. Why the magnetic needle pointed north and south, was a problem which philosophers long endeavoured to solve in vain. At present, we have at least a rational answer to this question. It has been demonstrated that heat will generate electricity, and it follows, from the known principles of electro-magnetism, that if a current of electricity is made to set up around our globe, at the equator, the earth must necessarily become magnetic in the direction of north and south, and must influence the direction of all other magnets on its surface, according to the usual law that opposite poles attract each other. Does then such an electric current exist? We believe there does, and that it is produced by the earth being heated in the direction of east to west, by the sun's rays. It has been determined, however, that there does not exist a single north magnetic pole, but that there are two, one in Siberia, and the other in North America—consequently, there must be two magnetic south poles as well, although their position has never been determined. These poles, or centres of force, are, however, not fixed; the needle continually changes its direction. At present it points to 24° west of north; but, in the year 1664, it pointed to the north—it previously pointed west, and is now returning to the same direction. Why there are two poles, or centres of force, in each hemisphere, we cannot determine; it is clear that only one should be produced by means of the thermo-electric effects of the sun, but many other sources of electricity, of which we know nothing, may exist: the directions of the secondary currents, thus produced, may be various, and the varying position of the magnetic poles may be nothing more than the changing resultants of two or more forces, not always possessing the same amount of intensity.

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COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

Delivered by C. J. B. WILLIAMS, M.D., F.R.S., Pofessor of the Practice of Medicine, and of Clinical Medicine, at University College.

GENTLEMEN,—We see the effects produced by the existence of pus in the circulation in cases of what is termed suppurative phlebitis. The symptoms therein occurring are, great prostration, brown dry tongue, thirst, faintness, hiccough, delirium, quick feeble pulse, and an anxious expression of countenance, together with other indications of a typhoid state. When pus is thus absorbed, or otherwise conveyed into the circulation, it excites other parts to inflammation, having a tendency to suppurate, and hence deposits of pus are found in various organs of the body—these formations occurring as a result of previous suppuration, are called secondary or metastatic abscesses. It is stated, that pus globules are found not only in the blood, but that they have also been detected in the centre of coagula. Gulliver says decidedly, that it is disintegrated *fibrin* that exists in the centre of coagula, and certainly not true *pus*. Traces of lymph are frequently found deposited with purulent matter. There are many points connected with the origin of purulent formations that it is quite out of my province to enter upon, seeing that they belong to the chair of pathological anatomy. So long as pus can escape freely, little serious mischief may result; but it is, when it is confined and cannot get vent, that constitutional fever and irritation are produced: much will depend of course upon the situation in which matter forms, whether it is likely to be followed by serious consequences. Abscesses in the brain are, I believe, uniformly fatal. As a general rule, the more deeply seated an abscess is, the more dangerous it becomes. Even when pus is superficial, and can easily escape, yet, if its formation is extensive, it leads to great emaciation and hectic fever, which is characterised by flushed face, quick feeble pulse, partial heats occurring at intervals, alternated with chillness. The heat is felt chiefly in the soles of the feet and palms of the hands; because in these situations the cuticle is, as you know, remarkably thick, so that evaporation is prevented, and consequently the temperature continues high. The peculiar appearance of the face in hectic fever, constituting the hectic flush, at once indicates the nature of the affection to the experienced eye. The body becomes gradually wasted; the emaciation is sometimes extreme; there may also be much depression; patches of ulceration in the form of thin detached films frequently are present in the mouth, constituting aphthae; the urine contains a peculiar *pinkish* deposit. Towards the fatal termination of the disease, colliquative discharges very commonly supervene, such as vomiting, perspirations, and diarrhoea; these, as you may suppose, rapidly debilitate the patient, and soon bring his existence to a close. Hectic fever is said by some always to depend upon the presencence of *pus*; but, if this were the case, it would evidently be found only where pus was

discoverable,—and yet it is observed, in some diseases, such as diabetes mellitus, &c., where there is *no* pus. Although there is no pus, there may be some other *poison* in the system to cause the symptoms. It is in the young and irritable that hectic is principally noticed. Although pus is undoubtedly noxious in its effects, it is not so bad as gangrene. It seems to have a great tendency to run into putridity, and give rise to the disengagement of sulphuretted hydrogen; still there are instances of pus remaining in a good condition for a very considerable length of time when excluded from the air. Rigors occurring during inflammation, are pretty conclusive of suppuration taking place, except in diseases of the urinary organs. In diffused suppuration rigors, too, are often absent. Suppuration is frequently beneficial, especially in mucous membranes, as in cases of bronchitis—it tends to remove the thickening—but even from a mucous surface the discharge of pus will, if long continued give rise to hectic symptoms. We have now passed in review as results of inflammation, the occurrence of effusion, softening, adhesion, induration, ulceration, and suppuration, and the last I have to mention is *gangrene*. The symptoms of this termination will depend, to a very great extent, upon the strength of the constitution and the vascular process—if the subject is strong, the irritative fever may continue high, and no depression occur: the vascular action defends the system from the influence of the poison and keeps up the fever. But generally there is depression present, and relief from pain on the supervention of gangrene; the tongue becomes brown and dry; the breath putrid; pulse feeble; countenance collapsed, and features tremulous: cold fetid sweats and low delirium, with hiccough, occur, and death speedily follows. Externally, there is a characteristic putrid odour. It is recognized in the intestines by the fœtor of the alvine excretions. In phthisis, there is often a very fetid odour communicated by the breath and expectoration; it may also arise in bronchitis. The gangrenous smell is very much like that of the dissecting-room. It is especially liable to occur in dilated bronchi, because the matter becomes lodged in them, and is there decomposed. A very fetid odour often arises from lymph decomposing on the fauces. Thus we see that very putrid odours may arise from decomposition of secretions, and does not necessarily indicate any actual sloughing of the tissues. There is no very absolute line of demarcation between pus and gangrene. We saw that lymph and pus may be mixed, forming purulent lymph, so as not to be clearly distinguishable from each other; and so, too, may gangrene and pus be mixed. Pus may be almost gangrenous. A gangrenous abscess presents a most lamentable condition.

We have now to consider a few of the principal *divisions* of inflammation. The chief of these is the *sthenic*, in which the power of the heart and vessels is active and remarkable; it is also characterized by an inflammatory condition of the blood itself, as indicated by its containing a large quantity of *fibrin*. The tension of the arteries is great, and the fever high. This sthenic form is also acute. In the *asthenic* form, the inflammation is not backed by much vascular activity; and the blood is not nearly so rich and fibrinous. A variety of inflammation is described, by Cullen, as *phlegmonous*; but this is not a distinct species. It is seen in cellular and compound textures, where it is circumscribed by effusion of lymph, and may tend to suppuration. The inflammation is not diffused, but this fact depends rather upon the tissue than upon any thing specific in the nature of the inflammation itself. The inflammatory fever itself is generally high. Another kind of inflammation, and one that appears to be just the opposite of the former one, is the erythematic, or erysipelatous, which is specific in its tendency to *spread* in all textures. It leads to the effusion of serum, with *little* lymph, so that circumscription is not effected. The effusion takes place frequently under the cuticle, forming vesications and œdema. The fever that accompanies this inflammation is often of the typhoid type, and not uncommonly precedes the inflammation. In addition to the prostration, delirium, dry tongue, &c., there is unusual disorder in the *secretions*. The symptoms appear to be out of proportion to the amount of inflammatory action, so that we must conclude there is something specific in the constitutional state. Erysipelatous inflammation has a tendency to attack the peritoneum in puerperal fever; women are specially liable to puerperal fever at the time that erysipelas is prevalent. The larynx is particularly subject to erysipelas. This inflammation often follows external injuries. It frequently prevails epidemically, and may, unquestionably, be propagated by contagion,—it is, in fact, a *poison*. It is apt to occur chiefly in bad situations, and attacks most commonly the surface. It may attack mucous membranes, as in the fauces, &c. It sometimes affects the pericranium, and sometimes serous membranes. The effusion produced by this kind of inflammation is more liquid than usual; the lymph is curdy and shreddy. There is sometimes a film secreted over the ulcerations, which decomposes readily, and exhales a fetid odour. This form of inflammation is called *diptheritic*.

Another species of inflammation is the *rheumatic* and gouty. This is derived from the condition of the blood. It does *not* tend to *suppuration*, but to the effusion of serum into the joints. In the pericardium, lymph is effused. The blood is very buffy, the urine scanty and high-coloured, and the perspiration *acid*. It generally occurs in habits previously diseased, and is remarkable for its tendency to move or shift about from one part to another. It chiefly affects *fibrous* tissues, as tendons, fasciæ, the pericardium, dura mater, &c. It depends upon some materies morbi in the system, or, as is generally admitted, upon *lactic acid* in excess. *Gouty* inflammation attacks more particularly the *smaller* joints. It is almost invariably associated with a deranged condition of the stomach, and very frequently with gravel in the urine. If the disease exists long, there is a peculiar deposit noticed in the joints consisting of lithic acid and soda. It is most common in plethoric subjects. Another variety of inflammation is the syphilitic, which depends clearly upon the presence of a specific poison in the blood; it attacks various parts of the body, especially the skin, periosteum, the bones, the eye, and the lymphatic glands. In the skin it tends to suppuration—in the periosteum to exostosis—in the iris to the effusion of lymph—in the mucous membrane of the eye and urethra pus is formed. The last species of inflammation that we shall notice is a very important one, viz., the *scrofulous*. Its effects are chiefly manifested in the lymphatic glands. In ordinary inflammation there is much heat and pain experienced, but in scrofulous cases the pain is generally slight and also the heat —the redness is rather lurid. There is a remarkably slow tendency to termination, so that the disease is very tedious; it leads to hypertrophy of the glands. The pus that results in scrofula, or in other words "scrofulous pus," has a peculiar *curdy* or *cheesy* character that is readily distinguished; it is more *serous* than ordinary pus. The abscesses that arise have little disposition to heal, and are prone to insinuate into the cellular tissue. Another peculiarity of this inflammation is that the usual antiphlogistic remedies are productive of little or no benefit. There are several signs by which the scrofulous diathesis is easily recognised, such as general relaxation of the solids—transparent skin appearing soft and fine, and shewing the veins very distinctly under it—the countenance is pale with circumscribed livid patches—the eyes have a *pearly* aspect—the hair is generally fair, frequently reddish—the upper lip is remarkably tumid—the glands have a special liability to enlargement. In scrofulous subjects, moreover, there is often precocity of intellect, wounds are caused to heal with difficulty, the joints frequently become swollen, the skin is dry and hard, or else it is soft and clammy. The synovial membranes of joints are very subject to disease, also the cartilages, especially ulceration of the nasal cartilages, also tuberculous disease in all its forms. It is quite evident that scrofula is a disease of the *nutritive* secretion. The causes of scrofula are debilitating influences long continued. It is undoubtedly hereditary. The children of old or gouty and dyspeptic parents are specially subject to scrofula. It may be excited by poor food, cold and wet, confinement in impure air. It is exhibited most commonly in winter and spring, particularly after fevers and long illnesses. Patients who suffer from it, experience relief and improvement during the summer months. Scrofula gives a tendency to chronic inflammations. It does not exist in the same form in warm climates as in cold—in the hot climates the *liver* is the chief sufferer. The predisposition is exhibited in people coming from hot climates to cold. It much modifies *acute* inflammations and lowers the vitality of the products of inflammation, for if lymph is effused, it is not organised at all, or else only in a low degree; it is not assimilated to the tissue in which it is secreted, but gives rise to chronic induration tending to ulceration; it may be quite *aplastic* forming empyema. The matter of scrofulous abscess differs from ordinary pus; the globules of the former are granular, and not vesicular, as those of pus. Scrofula depends upon some diseased condition of the blood, or of the assimilative functions.

CYNANCHE MALIGNA.

BY A COUNTRY PRACTITIONER.

Inflammation of the tongue, the uvula, and soft palate, the fauces or tonsils, when of the ordinary kind, or what is called *common inflammation*, although attended by local symptoms sometimes of a very distressing character,—pain in swallowing, feeling of fullness in the throat, accompanied with choaking sensations and laboured respiration, at the same time, considerable febrile disturbance, frequent and full pulse, furred tongue, headache, &c.,—is not, generally speaking, to be regarded as an alarming or dangerous complaint. The object of this paper, however, is to contrast the above forms of disease with other maladies attacking the same parts, different in their nature, and more to be feared as to their results; although at their commencement, they have occasionally characteristics so much in common with the affections of the first class, that the young or incautious practitioner is occasionally betrayed by a deceptive similarity, if not into the adoption of an erroneous treatment, at least into the giving to friends of that which turns out to be an unguarded or incorrect opinion. In towns, where the population stands thick on the ground, and where medical practitioners at any given time have every facility of knowing whether or no epidemics exist in the neighbourhood, it is not only comparatively easy to know of their existence, but also to make ourselves more or less acquainted with their nature; but in country places, where the inhabitants are thinly strewed, small in number, over a great extent of surface, the medical attendant cannot generally be so well informed respecting the extent or nature of epidemic forms of disease which may now and then prevail,—so that on his first being called to an isolated case, or one which, in the commencement, appears so, from the fact of its being the first he observes of that which afterwards becomes a series—a complaint which might justly be called malignant—is regarded as the commencement of a benign and curable affection; whence some occasional mistakes we make in prognoses, which although they may have had little to do with modifications of treatment, are all important as regards the expectations, confidence, and opinions of friends. It is especially with a view to throat affections, and to the differences between the common and curable, and the specific, epidemic, or contagious, that the following remarks are put together, without any attempt at method, merely for the sake of the practical utility which they may probably be allowed to possess.

Although the term malignant sore throat is so commonly employed by English practitioners, its propriety has been called in question; in like manner another term often used by French writers, to qualify the same kind of disease, viz. *asthenique*, has been regarded by some recent writers on the subject, as essentially incorrect, inasmuch as it is said to be contrary to reason and sound physiology, that the same inflammation, that the same peculiar formation of false membrane, such as in these cases,

lines the throat affected, should in one case be the result of weakness and in another of strength, on the one hand associated with an exaltation of vital energy, on the other connected with its depression. The term *sthenique*, being the opposite, employed in speaking of that form of the malady distinguished more by symptoms of common inflammatory action; perhaps of the terms *malignant* and *asthenique*, the former is the better of the two, by virtue of its more popular and less scientific character; it commits the practitioner to no peculiar opinion, as he is not often asked the difference between the malignant and the benign. Many diseases are known to affect very differently different constitutions; and it appears to me that the progress, duration, and termination of throat affections, are influenced as much by peculiarities of individual constitution, as they are by peculiarities of disease, or morbid action, yet as there is a difference between the synocha of Cullen, and the typhus gravior of the same author, so certainly is there a difference between the attack, progress, and symptoms, of common sore throat, inflammation of the tonsils, palate, &c., and those of cynanche maligna, which has the same anatomical locality: for in the former case we have to combat an active inflammation, by active antiphlogistic means, attempting to procure termination by resolution, opening abscess early if it occur; in the latter, where one characteristic of the symptoms is what might fairly be called typhoid, (if here we might be allowed to except the stupor) the tonic and antiseptic treatment must never be lost sight of, while to abstract blood, in many cases, might even prove fatal, and the practising of counter-irritation in the immediate neighbourhood of the parts affected, is not always unattended with danger.

In one fatal case which came recently under my notice, in a young lady, aged eleven, the throat affection was at first of so simple a character, that it was regarded as a case of ordinary quinsy, and during the first four days of its progress, no symptoms appeared, sufficient to make the practitioner from the first in attendance, in the least apprehensive with regard to the results. After this period, the change in the general aspect, and in the breathing, was so obvious that the friends became anxious for the safety of the child, for by this time the false membrane lining the fauces, and thickly covering the tonsils, had all the appearances that characterize the worst cases of cynanche maligna; the breath became exceedingly fœtid, the pulse very frequent and small, the respiration gradually more and more oppressed, till the fatal termination took place on the fifth day of the attack. In this instance it would seem, from all we could learn of the nature of the early symptoms and progress, there must have been some difficulty at the onset in establishing a correct diagnosis, and this more especially before the peculiar coating given by the disease to the tonsils and neighbouring parts, had been carefully observed; for after the ash coloured and spotted aspect of the throat, so characteristic of cynanche maligna, was observed, and this, in connection with the peculiar fœtid breath, the frequent and very small pulse, and the general prostration of strength, the complaint could no longer be regarded as ordinary quinsy, nor could it be supposed capable of relief by the treatment which suffices in common inflammation of the tonsils and palate. M. Dupuytren directed his attention some time ago to the treatment of the severe forms of cynanche maligna, and has recommended the employment of the "chloro-sodaic solution" of Labarraque in gargles, a practice also adopted by Guersent, Roche, and Sanson, who have reported favourably of its effects. To such treatment, in adults, the inhalation of oxygen gas might be added, and where the sitting up to inhale this gas is attended with difficulty, or where we are not furnished with the necessary apparatus, we may substitute the following method, recommended by Thomas: "Cause the windows and doors of the patient's apartment to be closed, and then, taking a chaffing dish with some live coals, throw into it half an ounce of purified nitre in powder, which will fill the room with a thick white cloud that will continue for a considerable time. This process ought frequently to be repeated in the course of the day." We are recommended by some practitioners to take great care in preventing any part of the secretion or false membrane formed on the fauces from passing down the œsophagus into the stomach; and this precaution appears more especially necessary in children of feeble constitution, for the gastric irritation which might thus be set up, would be in such cases a grave addition to an already serious complaint. When the matter in question is loose enough to be removed; this may be done by a little fine soft sponge, tied to the end of the strong handle of a camel's hair pencil, or to the end of a common black-lead pencil, at the other end of which may be attached another portion of sponge, with which any stimulant or other application may be carried to the denuded surface of the throat, and its healing in this way favoured; the patient at the same time, if sufficiently old and intelligent, being recommended to make occasional efforts to expel loose shreds of this formation by the mouth. If we have reason to think that any disturbance of the bowels,—griping, purging, &c., which may occur, is caused in the manner now alluded to, we had better not employ astringents to stop it, but instead, an occasional small dose of castor oil, to which, for the sake of allaying irritation, a few drops of laudanum may be added. At the commencement of the attack, having attended to the state of the bowels, we find that some degree of benefit generally follows the action of sudorifics, which, however, in most cases, are only admissible in the early stages of the complaint, for a treatment by diffusible stimuli is often indicated, within the course of the first three or four days, when mixtures containing ammonia or æther, more or less, according to circumstances, will come to our aid in such cases as are distinguished by the aspect of great debility. In short, this view may be safely taken of the malady as it affects different constitutions, that in some there being sufficient strength to begin with, reaction on the system takes place, the pulse becomes moderately full, and the skin warm, with occasionally more or less head-ache, symptoms of inflammatory fever prevailing; in others, instead of this reaction, which declares itself chiefly in the state of the heart and circulating system, of which the pulse is taken as a principal index, the powers of the system are overcome by the energy of the disease, and reaction does not take place, but gradually an aspect of debility supervenes, the pulse is frequent and small, the patient lies prostrated by the complaint, and it is with pain and difficulty that the ordinary efforts are made for the employment of remedies, a state which is sometimes called typhoid here taking the place of that which has been designated inflammatory fever in the other instance; now the difficulty is to distinguish well between these conditions, and to establish such distinction at the earliest possible period, inasmuch as the treatment must be influenced more or less by the balance of indications, which will differ considerably, as far as the remedies to be employed are concerned, as they belong to one or the other of the states, to which we now allude. It is to be recollected that the former set of symptoms are generally favorable, and that the latter are the opposite, so that great care should be taken that we do not by any part of the treatment, favour at all the occurrence of the latter condition, for this may easily be done, and it has occasionally happened that during the prevalence of the first state, blood in too great a quantity has been incautiously abstracted, when unexpected debility and the so-called typhoid state have followed, so that if by leeches in considerable number, or by other modes of letting blood from the throat, we reduce the patient too much, the chances of recovery, which might otherwise have been afforded by the strength which he possessed at the beginning, will be reduced in the same ratio as the powers of the constitution, and we shall have to regret the loss of a sheet anchor, which no art can restore or bring back. In cases, therefore, of cynanche maligna, or in any milder form of throat affection likely to end in it, the practitioner will have to watch diligently at the bed-side of the patient if he wish to mark the distinctions we have noticed, or to vary his treatment in accordance with the progress of the case.

A French author speaking of the morbid appearances found on dissection in these cases, remarks, that no traces of gangrene are to be met with, only the vestiges of inflammation, and that nothing but an erroneous notion has led to the adoption for this complaint, of the term of "*angine gangreneuse.*" We cannot, however, understand this objection to the term gangrenous as applied to many cases of this disease, for not only do we meet with vestiges of grangrene after death, but even during life the progress of the gangrene is in many instances only too apparent. We have seen several cases where gangrene commencing in the throat, has made rapid progress from the mucous membrane towards the skin, destroying most of the intervening structures along with the mucous and tegumentary tunic; the ravages of this severe form of the complaint are generally such as to destroy life, soon after the gangrene has reached the exterior and the throat has been laid open; to this, however, we meet with interesting exceptions.

A case came under our notice some time ago, where, by the process of gangrene, the carotid sheath was exposed, and the nerves of the neck, as it were, beautifully dissected by the sloughing of the surrounding textures; this case for some days after the separation of the sloughs appeared to be doing well, healthy granulations arising from the exposed surfaces; the child, however, was irritable and exceedingly cross, and the mother, not being a good manager, allowed the patient one day to get into a sort of juvenile rage, and during this a small artery in the neck began to bleed, by which the sufferer was so much reduced as to sink from the effects of the hæmorrhage.

We have frequently had opportunities of observing, that in bad cases of cynanche maligna blood-letting is decidedly useless, at the least, if not practised at the very onset of the complaint, and here it should be local—as by leeches behind the ears, or cupping at the back of the neck, and not general, for in this there is often risk of doing harm, as before mentioned. We do better to avoid the application of leeches or blisters to the throat, or in the immediate vicinity of the parts affected; for cases are now and then met with which seem to have escaped from the injury inflicted by the disease in the fauces, but which fall a prey to external gangrene following the application of a blister to the throat itself. On account of the disposition to slough, which the blistered surface not unfrequently takes on, even where more serious consequences do not follow, the blisters on the throat should be avoided, for the scar afterwards left, presents, in many instances, a very hideous aspect, more especially to be dreaded in females.

It appears to be questionable, and matter worthy of consideration, whether in cases of cynanche maligna, where no affection of the skin generally has been observed, it might not be good practice to employ the cold affusion, which has been so much recommended in scarlet fever, where there is great heat of surface, and from which no doubt fever patients often experience very great relief. This might rouse the capillary circulation into vigorous reaction, and if at the same time sinapisms were applied to the feet, to the legs, and even to the thighs, some derivative effect might be hoped for, more or less likely to relieve the throat and neighbouring parts. With regard to the local treatment at the commencement, I should have no hesitation in applying with a small brush a good strong solution of lunar caustic to the tonsils and neighbouring mucous membrane on either side, with a view of altering the action of the part so much as to give a chance of getting rid of the complaint by resolution; and as I am convinced, from the observation of a considerable number of cases, that in some respects the complaint before us is analagous to carbuncle under the external tunic of the body, I should be disposed to bear in mind always the practice we resort to in many cases of carbuncle,—viz., that of making a way to the exterior for dead portions of cellular membrane, by the crucial incision, &c.—aware all the while of the necessity of guarding against unnecessary loss of blood in every instance of cynanche maligna. This comparison may appear somewhat strange; carbuncle might be said

to occur on any part of the body, cynanche maligna only in connection with that part of the mucous membrane which lines the throat. We may recollect, however, that the œsophagus, as well as other lower parts of the intestinal tube, is occasionally affected in cynanche maligna, shewing that there is at least a tendency to morbid action throughout the extent of the mucous membrane, for indeed the bronchia do not always escape intact.

What carbuncle is then to the skin and cellular membrane beneath it, such is the tumour in cynanche maligna to the mucous membrane and subjacent cellular structure; for the complaint is not especially connected with the tonsils in the same degree that ordinary quinsy is, nor could it with propriety be styled, malignant tonsillitis. There are certain differences, no doubt, as regards the state of body under which the two diseases make their attack, besides which we meet with cynanche maligna, as an epidemic—I would rather say an endemic; even in this, however, there are certain points of resemblance chiefly to be sought for, as far as carbuncle is concerned, in the history of diseases of some parts of Asia and other warm climate. There is in many cases, more especially at the onset, a certain resemblance between the affection of the mucous membrane in cynanche maligna, and that of the skin in erysipelas; we will not, however, carry this paper beyond reasonable bounds by constituting further comparisons.

Most of the cases alluded to in this paper were unconnected with any cutaneous eruption, not cases of scarlet fever with severe affection of the throat, but malignant sore throat alone; the case of the young lady, which terminated fatally, being one of a somewhat numerous group where the disease attacked almost every member of a large family residing in the country, without any known cause, or our being able to trace its approach from the spread of any neighbouring epidemic.

GALL AND DR. MACARTNEY.

To the Editor of the 'Medical Times.'

Sir,—Dr. Macartney in the Transactions of the Royal Irish Academy, quoted in your last week's paper, page 151, column I, says:—"If we can ever arrive at correct notions of the functions of the brain, it must be by careful dissections of the interior parts of the cerebral organ, and by ascertaining the correspondence between the minute structure, and the endowments and dispositions of the different individuals; taking into account at the same time, the influence of the various organs of the body, *instead of ascribing to certain parts on the surface of the brain, distinct and often opposing faculties as Gall and Spürzheim have done.*" Without stopping to consider the practicability of the method proposed in the first half of this sentence, (which method is about as excellent as wandering over the ocean would be without a compass), I wish to direct attention to the words in italics, which are intended to insinuate a refutation of Gall's doctrines, or at any rate to charge them with gross absurdity and inconsequentiality. As many who read this sentence may take Dr. Macartney's dictum as sufficient without examination, I take the liberty of subjoining what Gall himself really taught respecting "certain parts on the surface of the brain." Gall: Sur les Fonctions du Cerveau, tom. iii., p. 2, 8vo. ed. "Is there a relation or determinate correspondence between the brain, the cranium, and the head? The possibility of resolving this question, supposes that *the organs of the mind are situated at the surface of the brain*, that they are more or less depressed, more or less flattened, more or less elevated, more or less small, according as the exercise of their functions is susceptible of a greater or less degree of energy; that these varieties in the form of the individual parts of the brain are shewn on the surface of the cranium and head; *assertions which must be rigorously proved.* . . . The following observations will serve to answer the question,—*how far is it true* that the organs of the mind are situated on the surface of the brain? We must recollect that every nerve, after having been sufficiently strengthened, ramifies and spreads in the part where it has to exercise its function. The nerves of sensation and of motion spread in the skin and muscles; the nerves of sense, each in the exterior apparatus peculiar to itself; e. g., the olfactory nerve in the pituitary membrane, the gustatory in the tongue; the optic, by its expansion, forms the retina. *This part in which the nerve spreads is not, it is true, all the organ; but we may infer the magnitude of the nerve itself from the extent of its expansion.* The expansion of the olfactory nerve in the dog and the horse is more considerable than in man; and the nerve itself is larger from its origin to its expansion, in these animals than it is in man. *Nature follows precisely the same law in the brain.* The different parts of the brain arise and are strengthened in different places: they form fibrous bundles more or less considerable and finally spread. All these expansions of different bundles, when united, form the hemispheres of the brain. These hemispheres are then nothing but a nervous membrane, two or three lines in thickness, completely covered externally by an apparently pulpous or gelatinous matter of a greyish colour. Imagine this great nervous membrane (as it may be seen in some hydrocephali), folded like a flounce, so that each fold is from 12 to 16 lines (more or less) in depth? convolutions will arise, the intervals between which have received from anatomists the name of anfractuosities; and we shall have the two hemispheres, such as nature has deposited them in the cranium in their folded state. The expansion of the olfactory nerve forms analogous folds in the buttons of the nose. A small bundle or fascia can only form a small expansion, and consequently small folds, and a small, or several small, convolutions. On the contrary, a nervous fascia of considerable size, forms a very wide and thick expansion, and consequently very much more voluminous folds and convolutions. Hence *although all the portions of any cerebral organ are* NOT *situated at the surface of the brain*, from their origin to their expansion, *we may nevertheless from the magnitude of the fold or convolution, conclude with certainty concerning the volume of the whole organ.* The wider, longer, and deeper are the convolutions, the more space they occupy, and the higher they rise above those which are not so long, deep, and wide: so that a brain, the integral parts of which have acquired an unequal development, offers at its surface hollows, flat parts, and protuberances." It is needless to pursue the enquiry further. Enough has been said to shew that Gall did *not* teach that the organs *themselves* were situated at the surface of the brain, but that we can, by their expansions there situate, conclude concerning their whole volume, which is very different. As to the sneer implied in the words "opposing faculties," it may be left unanswered, as Gall may be allowed to suppose he has proved the existence of faculties which in their exalted state are widely different, until the metaphysicians have proved, not only *a priori* that such faculties *cannot*, but *à posteriori* that they *do not* exist. As the notion that the organs are only situated on the surface of the brain, according to phrenologists, is a very common error, I have ventured to intrude thus much upon your columns, in order to shew that Gall never taught such a doctrine. I am, Sir, your obedient servant,

A. J. Ellis.

Dorking, 7th Dec. 1842.

THE NEW MEDICAL REFORM BILL.

(To the Editor of the 'Medical Times.')

Sir—The draught of Sir J. Graham's bill for reforming British Medical Government has been recently placed in my hands, and I do myself the pleasure of asking leave to communicate its contents through a journal which, however remarkable for the energetic ability with which it exposes abuses, is not, at least to my humble perception, less distinguished for the spirit of honest candour with which it can regard both the character and measures of gentlemen with whom, in general, it shews no concurrence of sentiments. Practically, I am sure your object and mine is the same—the usefulness, the happiness, of our common profession; and I am sure that whatever less liberal, because less enlightened, critics may do, you will neither pronounce me, *ex cathedra*, as imbecile of mind, or wanting in sincerity, when I assure you that, taking every thing into account, I consider Sir James Graham's bill the very best which we can hope for under the circumstances—and which, if it fail to shew the speculative perfections some sanguine politicians ask for, will produce all the practical good which the profession is really desirous of, or prepared for. It is all very well to talk of representative systems, and Faculties, but where are your men to enact them?—and where, if you get them enacted, are your men to work them? What are your associations? One of them, the British, is, or ought to be, dead,—if not defunct, its existence, after your narrative of its *decent* orgies and *respectable* organization, must prove an indifference to personal character, in its members, as well as leaders, which must make it something worse than useless to the projects which they are supposed to support. The other, the Provincial Medical and Surgical Association, is a "*res non.*" A periodical which once enjoyed great notoriety, and whose recent extinction is a proof how little its violent medical politics met with sympathy from the profession,* some time since pronounced it an utter failure, and I have my doubts whether the Association has any creed of medical reform which they dare to promulgate, or ask subscription to. You yourself are constantly complaining of the apathy of the profession, which, with due deference to you, is but another word for expressing its dislike to all excessive changes,—so that, Sir, externally, and internally, in the measures proposed—in the authority in their favour—in the disfavour, discredit, and powerlessness of the agitators—in the tacit opposition of the profession to all their schemes of violent disrupturing of our medical polity, I see reasons for supporting the moderate measure of Sir James Graham, which, without making a revolution which would do thousands harm, effects all the substantial practical reform which can do any well-meaning and honest man good. I am aware that my sentiments do not accord with yours, and not to increase the risk of their omission in your publication by further prolixity, I proceed to lay before you the details of a bill which, I think, has the highest claims on my fellow-practitioners' approval.

First—the constitution and government of the two Colleges of Surgeons and Physicians are to be practically assimilated.† — Medicine, Midwifery, Pharmacy, and Chemistry, on the one hand—and Surgery and Anatomy on the other, are to form distinct subjects of examination. The first will be supervised by the College of Physicians, the Apothecaries assisting them: the second, by the College of Surgeons—a most wise regulation. This double examination will give a title to practice as General Practitioners. After increased study or practice, these may take the higher degrees of Doctors of Medicine or Surgery, or both, after renewed examination of a still stricter character. Each and all of these examinations may be presided over, at pleasure, by any member of the Central Council of Health—a Board formed of one of the two Secretaries of State, four non-professional members, nominated in perpetuity by the Government, and eight physicians or surgeons, representing the English, Scotch, and Irish Colleges—four for England, two for Ireland, and two for Scotland, selected by Glasgow and Edinburgh alternately. Government appoints unreservedly the whole Council in the first case, and subsequently chooses two for each Colleges, from lists of fives, furnished by the Colleges respectively. And, Sir, whatever your opinion may be on the necessity of medical men for their own government, a little reflection will teach that a few lay-

* Our correspondent (as if influenced by coming events, which, we are told, cast their shadows before) evidently labours under the mistake that the *Lancet* is already given up. This is not *yet* the case. Journals, like some other sufferers, will sometimes linger on a long time in *articulo mortis*.—Ed.

† We have omitted a portion of our correspondent's remarks here, as all this was detailed in a former Number.

men are not without use in their deliberations. If medicine do not, like law. narrow the mind, it contracts the heart—and we never behave better to each other, and our profession's repute, than when under the public's eye. The way to have us harmonious, and not personal, is not to leave us quite to ourselves. The mode of retirement is wisely arranged. After the first eight's withdrawal, the professional part of the Council will be re-composed every four or six years—the precise period, I am told, not being yet fixed. Though it was designed, originally, that the President (the Secretary of State) should nominate the vice-president, who was not to be a medical man (an equivocal proceeding, I own)—I am told that a change is here in contemplation, two of the Colleges having made strong objections to this plan. Another wise provision is, the great power which this Central Council will exercise over every rule and bye-law of all the Colleges. It will cause a perfect unity in the medical community—build them, if, Sir, I may so express it, into one large house, with a pleasing variety of apartments—and give us general rules, by which our qualifications and respectability will be made matters of assurance to the public.†

In conclusion, Sir, as an old man of some experience, I would recommend you, and the profession with you, to examine this bill as you ought to do, and not squall because you have made a custom of it—nor go on asking if, in the book of platonics, something nicer might not be fashioned—but whether, with due respect to existing interests, and practical legislating in the homely business way which suits Englishmen, anything could be produced so likely to obtain the sanction of Members of Parliament—many of whose sentiments I have the honour to know personally—and, at the same time, satisfy the reasonable part of our brethren. Some men, I know, nothing will satisfy in the way of medical improvement, except it would teach them to keep the bailiff out of their house, or entrap patients in, —but you, Sir, and such as you—excuse my frankness—know better, and should do better.

MILES NON SINE GLORIA.

N. (?) 29. 1842.

[Our frank-spoken correspondent has our warm thanks for his communication: though, we confess, his logic, practical as he considers it, is not of the sort to make us converts to his opinions. No doubt, with him, we only seek the *practical* well-being of our profession; and if that be *secured*, *guaranteed*, we shall not care if in Acts of Parliament, there existed no word about us—or if there did, that in them, and *on paper*, we were the most incongruously-arranged polity in the State. But our objection to the new bill (not repeated from a *habit* of opposing governing bodies, as our correspondent insinuates) is that it will fail either to produce, or producing, fail to *secure* that practical well-being which forms, we freely own, the only reasonable object of all legislation. The education of medical men is left too much at *discretion*—rewards and encouragements to scientific merit are far, very far, too much overlooked, and protection to the practitioner, and, through him, to society, is too little recognized in Sir James Graham's bill, ever to permit us to support it in its present form, on our correspondent's ground that, though deficient in theoretical excellence, it abounds in practical perfections. This is a subject, however, to which we shall shortly have again to direct our readers' attention.—ED.]

CHINESE PROGRESS.—We have heard it stated, on authority on which we can rely, that a surgeon to one of the principal London hospitals has been applied to, to receive a young Chinese into his home, to teach him the art and mystery of surgery.—*Globe*.

† Our correspondent gives us, here, some further details as to the registration of medical men, and their legal separation from quacks, which, as published in the Number before referred to, we have taken the liberty of omitting.

WESTMINSTER HOSPITAL PHYSICIANSHIP.

(To the Editor of the 'Medical Times.')

SIR,—In the last number of the *Medical Times*, my name is introduced as one of the candidates for the Physicianship of the Westminster Hospital, about to be vacant by the retirement of Dr. Burne. I beg, however, to state that I am no longer a candidate for that situation. The Committee of Management of the Westminster Hospital had previously to my appearing on the field, unanimously resolved, I found, to recommend to the Governors my able colleague Dr. Basham. In thus resolving to support Dr. Basham, I am perfectly satisfied that the committee have acted from the purest motives, and have had a regard solely to the well-being of the hospital over which they preside, and have besides adopted the only legitimate course in their power of counteracting the nefarious practices which you have so strongly condemned, and which at present threaten to destroy the independence of the committee, as well as the good name and usefulness of an excellent hospital. Under these circumstances I have deemed it proper to retire, to leave the committee unshackled in carrying out their good work, and hope to be able at some future period to appear before the Governors of the hospital under more propitious circumstances.

I am, Sir,

Your obedient Servant,

ROBERT HUNTER.

Westminster Hospital School of Medicine,
Dec. 6, 1842.

To the Editor of the 'Medical Times.'

SIR,—I am an old subscriber to your valuable paper. I am also an old subscriber to the Westminster Hospital, and am one of the Managing House Committee. Under these circumstances, I take the liberty to trespass on you with a few words, in regard to the forthcoming election of physician to that charity, induced by the very able, humane, and proper remarks contained in your last week's number, as well as to set you right in regard to the general feeling of the House Committee respecting this disgraceful job. You may not be aware that the Committee has been kept most studiously in the dark as to the expected resignation by those concerned in the intrigue, and when about three weeks since, a sum exceeding three hundred pounds was reported to have been paid by new governors, all were at a loss to know from what source. "These soft impulses of divine benevolence" so suddenly arising in favour of this "distracted" charity, it was conjectured that some surgical move was on the *tapis*, and one of the surgeons who has an expectant son, forthwith found thirty more charitably disposed persons to add to the amount, in his favour of course, but in a short week it comes out that one of the physicians is about to retire from practice, and has given his sanction to a private and active canvass in favour of Dr. Kingston; it is reported, in consequence of pecuniary negotiations regarding a house and furniture, &c. &c. Alas, poor hospital, how art thou sold? Will not this transaction confer a most honourable distinction on the gentleman who retires from a public appointment into private life? After having so sedulously and scientifically discharged his hospital duties for so long a period, and to leave the institution bordered with a pitiful job for the committee to contend with.—which I assure you, they are most anxious to destroy if possible, as they are about to pass a resolution, "That the next election of physician shall be for one year only." It will then be seen whether the new governors will continue to support the hospital and their present candidates. I fear your proposition to defer the election *sine die*, and appoint a substitute in the interim, cannot be adopted as the rules regarding vacancies are imperative. Allow me to subscribe myself a well-wisher to the hospital, and your much obliged subscriber,

H.—M.R.C.S.

Pimlico, Dec. 6, 1842.

[We have learned from other quarters, besides the letter of our respected correspondent Dr. Hunter, and our friend "H.," inserted above, that the "*House Committee*" of the Westminster Hospital are exerting themselves to rescue the hospital from the foul disgrace which the dashing policy —the storming tactics of our young Hospital Alexander are calculated to inflict. The meeting of the committee on Wednesday last was more than usually interesting. The conduct of Dr. Burne regarding the alleged *arrangement* with Dr. Kingston, and the subsequent swamping the affairs of the hospital by an inundation of "*pocket voters*," was animadverted upon by Mr. Bicknell in strong and indignant language, and the dangerous consequences to the hospital forcibly pointed out in almost the *ipsissima verba*, in which we denounced the transaction in our last number. In the midst of the discussion, Dr. Burne himself appeared, and being called upon for an explanation, spoke on every thing but the subject in question. He offered, he said, to sell his house to Dr. Kingston for less than it was worth, and ultimately sold it to another person altogether. He had no time to refer to the furniture he sold Dr. Kingston, regarding which many curious rumours are afloat. The doctor spoke long, and said nothing, and when questions thick as arrows, were thrown from all parts of the committee-room at his devoted head, he grumbled out something about not submitting to cross-examination, and with an agility quite astonishing, bolted out of the committee-room. Dr. Kingston, the protegé of Dr. Burne, was not, however, so easily abashed. He boldly defended the principle of "pocket voters"—maintained that others had acted as he had done, and that the introduction of two or three hundred Governors of his own making, to force him over the heads of more worthy candidates, was perfectly constitutional, and calculated to add to the funds, if not the fame of the hospital. All this logic was lost, however, upon the committee, for they immediately, by an overwhelming majority, resolved, that at the election of a physician to the hospital at the next vacancy, the successful candidate should be appointed for a period not exceeding one year; a resolution in the propriety of which we concur, and although not adequate to meet entirely the emergency, shews the determination of the committee to use every means in their power to put an end to practices at once fatal to their Hospital fame and *usefulness*. One of the most amusing incidents of the meeting was the frank address of Mr. Guthrie, who avowed that feeling himself somewhat puzzled at the sudden flood of new governors into the hospital; he imagined that some surgeonship was in question, and that to protect his own interests, which might be in more jeopardy than he knew of—he had introduced some thirty of his friends as governors to be ready at the hour of need. Finding, however, how things stood, he pledged his honor to the committee that none of his nominees should vote in the approaching election.—ED.]

PAYMENT OF MEDICAL WITNESSES AT CORONERS INQUESTS.

THE act regulating this matter is the sixth and seventh of George IV. chap. 89. By the first clause the coroner is empowered to summon on an inquest the *legally* qualified practitioner who attended the deceased "*at* his death, or during his last illness." Or if deceased was not so attended, to summon *any* legally qualified practitioner "being in actual practice *in* or near the place" where death happened; and the coroner is further empowered at any time before the termination of the inquest to direct a *post mortem* examination, with, or without analysis of the contents of the stomach, the medical practitioner attending the deceased being prohibited to perform the autopsy, if oath be made before the coroner that he was partly or entirely instrumental in the death.

By the second clause, a majority of the jury are empowered to require that the attendance of any legally qualified practitioner or practitioners be ordered by the coroner, who, if he refuses, is made punishable as for a misdemeanour.

The third clause "requires and commands" the coroner to order remuneration to "the legally qualified practitioner" who "has attended upon any coroner's inquest, in obedience to any such order as aforesaid," and fixes the sum of one guinea for "attending *to give* evidence" if there be no *post mortem* examination; and of two guineas

for a *post mortem* examination of the deceased, either with or without the analyses, &c., conjointly with attendance to give evidence.

Clause 4 prohibits all payments for *post mortem* examinations where there has been no direction for such examination by the coroner; and clause 5 excepts from payment under this act, all witnesses who being the medical officers of any hospital, lunatic asylum, or any public medical institution, had the duty of attending the deceased person, the subject of any inquest.

By the sixth clause, a five pound forfeiture is enacted against medical practitioners who being duly served with the coroner's order, do not attend the inquest. Service at the house is service to the practitioner.

PHRENOLOGICAL SOCIETY.

On Monday Evening the usual meeting was held at the Rooms, Exeter Hall. After the minutes of the last meeting had been read by the secretary, T. Hewett, Esq. R.A., W. Topham, Esq., Middle-Temple, and Dr. Debout, of Paris, were elected Members of the Society. Dr. Elliotson, in alluding to the case of Cooper, which had been the subject of the last meeting's lecture said that the head was small, the organs of "Destructiveness" and "Caution" were very large, which must inevitably produce Revenge. He then remarked upon the curious mesmero-phrenological phenomena elucidated by Mr. Carstairs, of Sheffield, where the patient upon the organs of Time and Tune being touched, sang an air, and when Language was chafed added words to the tune. The other organs produced similar results, and this, under circumstances which precluded all possibility of collusion. He next entered into a clear detail of phreno mesmerism for the honour of the discovery of which, there was a sharp contest in America, between Dr. Collyer of Massachussets, and Dr. Buchanan of Louisville. By this discovery, the Doctor said, it is shown that during mesmeric sleep, one organ may be separately excited, and that also, at one and the same time an organ on either side of the cranium, may be simultaneously excited, thus presenting, as it were, two distinct minds co-existant with each other. Thus whilst one arm, should menace upon Combativeness being touched, the other, upon Veneration being excited, should be put forth to welcome. The president exhibited the cast of a young lady (æt. 18) in whom all the moral qualities were highly developed, and whom he had cured by mesmerism of severe epileptic fits. He observed that he had never been able to excite the intellectual faculties in this case, although he had repeatedly tried. He concluded his observations by announcing that at the next meeting, ladies would be admitted. Nothing of further interest occurred.

EXTRACTS FROM FOREIGN JOURNALS.

(Translated from the 'Berlin Medicinische Zeitung,' for the 'Medical Times.')

On the Relation of Affections of the Heart, with Acute Rheumatism. By Dr. Schlesier.—The merit of having drawn attention to the connection of inflammatory affections of the heart with acute rheumatism, belongs to the new French school of Bouillaud. The subject, as it deserves, has received proper acknowledgment from us; and it can escape no medical man who is familiar with the investigation of physical symptoms, how frequently inflammatory affections of the heart are complicated with rheumatic fever. Testa had, indeed, already shewn this relation, and the merit of priority properly belongs to him. But Bouillaud, to whom the stethoscope and percussion were at command, has been the first to make the fact profitable in practice. Much, that by the old physicians was considered as nervous rheumatic fever, and wherein the death of the patient was the consequence of an exciting method of treatment, is now acknowledged as pericarditis and endocarditis, and cured by bleeding. The occult inflammations of the heart, found in the bodies of those dying from the so called nervo-rheumatic fever, have ceased to be latent, since medical men have learnt by the use of the stethoscope, to discover inflammations, of which, on account of the want of subjective symptoms, and functional disturbances, no external signs appear. Affections of the heart, which so frequently accompany violent acute rheumatism, do not always depend on inflammation; but pure nervous affections of the heart arise in the course of rheumatic fever, disturb the functions of the heart, and bring forth the same complex symptoms in the subjective phenomena. As Bouillaud's opinion, and the antiphlogistic treatment based upon it, is so beneficial in the greater number of cases in which the co-existing affections of the heart are inflammatory, so must they be destructive where spasm of the heart complicates itself with the rheumatic fever, and calls forth the heart symptoms. Rare as these cases may be, in proportion to the inflammatory, yet is the fact certain that they do occur. The distinction according to the subjective and functional symptoms is impossible; here alone the physical signs may be able to give the solution, and on their employment depends the life of the patient. I had an opportunity of observing a very instructive case of this kind in January last, and believe it is not unworthy of publication.

A clothier, Kr., a pale, thin, and weakly man, had, in the latter end of December, much heated himself by a journey on foot, when an opportunity offered for him to ride home in a farmer's waggon; he had with great improvidence lain down in the open waggon, being very lightly clothed, and from weariness soon fell asleep. When he arrived at home, he was stiff in every limb, and was not able to move or stir himself. A violent fever came on, with very great pain, cough, side stitches, anguish, anxiety, and suffocation. I was called in on the 2d. January. The fever was strong, great heat, burning thirst, the pulse (120) small, hard, quick, the skin hot, and (they had given him elder tea for drink) covered with a profuse sour perspiration, urine crude, scanty, smelling sour and reddening litmus paper. He had not slept for two nights, light delirium, his sensorial functions in general not clear. He lay stiff on his back, without being able to move a limb. Every articulation, from the upper vertebra to the joints of his hands and feet, was attacked with violent rheumatic pains, the last reddened and swollen. Together with these, the patient suffered from short, painful cough, with slightly bloody sputa, stitches in the side, oppression, and short breathing, and frightful attacks of anxiety and suffocation. Auscultation shewed dry crepitation in wider extension in the right lung, with entire want of the normal murmuring respiration sound, and percussion gave a dull sound, while the heart with powerful palpitations and an anomalous impulse gave to the ear a vehement shock, and on the left of the sternum was perceived a rasping sound. One could labour under no doubt, that the patient suffered from acute rheumatism, with parenchymatous inflammation of the right lung, and inflammation of the pericardium, with sthenic reaction. Copious general and local bleeding, and the internal employment of digitalis, nitre, ant. tart., succeeded in the course of a few days in setting bounds to the inflammation of the thoracic organs, and in some degree moderating the violent pain of the joints. By the 6th of January, the heart and lung symptoms were removed, the heart stroke now only a little hastened, its impulse hardly raised above its normal state, the grating sound disappeared, and instead of the crepitation in the right lung, moist mucous rattle was audible. The attacks of anguish, anxiety, and suffocation had ceased. The patient expectorated well, the reactive fever shewed itself much moderated, in the character of erethism, the pulse was become soft, slow, and undulating; the urine less fiery, formed a crystallized sediment, but the cuticular secretion was yet raised above measure, and combined with purple eruptions upon the breast and back, to which the small hot room might well have contributed. The rheumatic affections of the joints of the vertebra had nearly disappeared, but the swelling of the joints with the pain yet continued with the same violence. The debilitated patient took ammon. carb. with ext. aconit.; and the continued disturbance of the nightly sleep, threatened a prejudicial influence upon the already disturbed sensorial functions, which was the more to be feared as the patient was not free from the suspicion of the abuse of spirituous liquors. From the danger, I endeavoured to increase the purple eruptions and perspiration; with the ammon. carb. I gave calomel grs. ij., opii. i. at night. By these means he went on quite as well as could be wished until the 11th. The fever had nearly quite yielded, heart and lungs completely free, the left hand quite painless, and in the feet and the right hand the rheumatism was so far mitigated by the lessened tumefaction that the patient might be considered as re convalescent, and this the more, as the sweating, quite contrary to my expectation, had ceased, from the use of the ammonia and opium, and a more moderate temperature of the room, and a light covering instead of the heavy feather bed. The eruption had dried up, and the urine shewed a copious critical crystalline sediment.

In the night of the 12th January, the 14th of the disease, the patient was seized with a violent attack of palpitation, anguish, suffocation, and apnœ, which lasted an hour. In the morning I found the fever again kindled, the skin dry and hot, the urine crude, and without sediment, yet no heart or lung symptoms, except a quickened beat of the heart. Towards night the above paroxysm renewed itself, while the fever reached a considerable height, and the palpitations came on with the same intensity and extension as before, the pulse (100) small and quickened; the local symptoms in the joints had nearly disappeared. I confess, that in the idea of a recrudescence of pericarditis, and impelled by the pressure of the circumstances, I had seized the lancet, and only delayed from reflection on the great weakness of the patient; I applied my ear to his chest, and I heard an extremely quickened stroke of the heart with a strong shock, phenomena which might be perceived by the applied hand and eye; but no trace of false sounds of the heart, and indeed neither grating sound, as characteristic phenomena of pericarditis, nor bellows sound, or rushing sound, as criteria of endocarditis, or rattle affection. Percussion gave even as little suspicion of exudation, which from the general distinctness and clearness of the heart pulse was not *a priori* to be thought of. From enquiries, I now first learnt he had suffered from great emotion of mind the day before; he had been judicially distrained. Now his situation was at once clear; instead of a fatal bleeding, he received a dose of opium and a blister on the chest; and by the use of infus. valerian with liquor elleri, repeated frictions

on the back with spir sinap, and a daily dose of opium, I succeeded in conquering the periodically exacerbating and remitting heart spasms, in the course of a few days, and in bringing on a normal crisis of the skin and urine, and giving life to the man who, for many days had been apparently condemned unconditionally to death. This case exemplifies the importance of the stethescope and percussion.

TO CORRESPONDENTS.

We may announce that we commence next week giving Dr. Marshall Hall's Lectures *(now in course of delivery at St. Thomas')* on the Diagnosis, Pathology, and Treatment of Diseases of the Nervous System—*a set, reported verbatim expressly for the* "Medical Times," *and carefully revised by the distinguished lecturer. This will form the best possible pendant to Professor Owen's Course, (the publication of which we have recently completed) on the Comparative Anatomy and Physiology of the Nervous System.*

Will C. tell us if all be right. If so, the parcel will be completed immediately.

Verus.—*We are perfectly indifferent about the journal. If the Mr. Renshaw spoken about, of whom* we *know nothing, be one of those who ruin themselves to please a whim, or gratify an antipathy, the loss of five or six pounds a week must be a mere bagatelle, especially if it be as our correspondent supposes, an affair of* credit.

Adscriptor.—*The M. B. of the Dublin University would be no protection for the graduates practising in England. Till, however, every unqualified man practising in England were prosecuted by the Company, we should think our Correspondent would not be intermeddled with, and that gives him "a long day."*

Dr. Fleming.—*A Correspondent, giving his name, sends us a circular, published by Dr. Fleming, in Douglas, the Isle of Man, which enlarges on the Doctor's abilities, giving in full testimonials written for him (apparently by Dr. W. Stokes, Sir Philip Crampton, Mr. J. T. White &c., backed by all kinds of statements as to who he is, who he served, and with what approbation. Perhaps Dr. Fleming may be unacquainted with the circumstance, and will, therefore, pardon our assuring him that this mode of procedure is not that which the decencies of society, or the rules of gentlemanly etiquette, allow.*

H.—*The Almanac (now stereotyped) continues on sale, price 4d. stamped 5d.*

Dr. Aldis' diagram has been received, but we are disposed to think that the written description is sufficiently clear. If Dr. A. thinks differently, we should be glad to see the block.

A number of Correspondents will find answers in our abstract of the Medical Witnesses Bill.

A Gloucestershire Subscriber *would meet with no great difficulty in passing the examination. The name, if successful, would be published as a matter of course. Under the circumstances, however, we should say* quieta ne movere. *If resolved to pass, the better way would be to arrange every preliminary through Mr. Belfour before coming to town.*

Mr. Wakeman's kind offer is gladly accepted; and if all our other friends would use their influence in securing us fresh subscribers among their personal friends, we should feel more and more strongly the conviction now animating us, that we belonged to a profession truly worth battling for. They would too (may we presume to say it?) do their friends a service—as us a favour.

The Cases of Mr. Moore, and Mr. Smith, and Communications by Potens vini, M.N. Cary, M. S. H. D. and Dr. Bennett, received.

Mr. Lugar *is thanked. We did not profess to give* all *the medical institutions. The remuneration for medical witnesses attending trials is two guineas a day. In taxing costs, however, or allowing expences, great discretionary power is exercised, and hence great discrepancies in amount.*

C. B.—*The order* was *received. To the other question we have got advice, and the answer is decidedly yes. Our Correspondent will find the abstract of the act in another page.*

Mr. Power's *note has been received, but as a general rule we do not print answers to us which have appeared first in the Dublin papers. If Mr. Power sends us one of his tooth-brushes, which "Her Majesty has done Mr. P. the honour to accept," we will give her Majesty, who does us the gracious honour of reading our journal, our humble and dutiful opinion as to the propriety of using it.*

T. F. A.—*Professor Chomel's Lectures were commenced in vol. 5, and finished with vol. 6. Dr. Scoffern's were inserted in various numbers of the same journal. Any number of vol. 5 or 6 may be had through any bookseller by order. And to other enquirers we may say the same of vols. 1 and 3. There are several numbers of vol. 2 out of print. Vol. 5 contains also Velpeau's Surgical Lectures.*

THE MEDICAL TIMES.

Saturday, December 10, 1842.

Did these bones cost no more the breeding but to play at loggats with them? mine ache to think on't.

Shakspeare.

A strict regard to public decency, — a vigilant protection over general health, is one of the most sacred debts which a Government owes its people. It is no speculative principle of right—no inapplicable theory of abstract good—but a social benefit, practical, tangible, vast; one of the highest boons of *assured* civilization, as one of its surest marks: and which, indeed, forms one of the main considerations which make the checks and limitations imposed by Civil Government, worth the acceptance of mankind. In France, where, thanks to Napoleon, social justice—a thing very different, though not opposed, to the subject's liberty—is higher than in any other country in the world, this important matter is a primary concern of the State; and forms the sole subject of watchfulness to an intelligent and well-remunerated corps of medical police. By whom, or how, is the duty discharged in enlightened England? Alas! we have only to read the report of the House of Commons on the health of towns, and that of Mr. Chadwick on the sanitory condition of the poor, to have the plain fact *demonstrated*, that, despite our inquiring commissioners on all imaginable subjects, and our unemployed State pensioners for every imaginable reason, there is not a public person in the empire to whom public decency, or public health, is a matter of the least official consequence; and that, to all intents and purposes, they are subjects of which, neither our code of national jurisprudence, nor our machinery of law administration, nor our system of general government, take the least possible cognizance! The morals, the feelings, the healths of the great bulk of British society are, in a myriad of unnoticed ways, at the mercy of any knave or fool who finds it his interest to speculate against them. Could anarchy leave our country in its *social* relations, we will not say in a worse or more perillous, but in a more *disgraceful* condition?

The subject involving public health and decency, to which we mean to direct public attention to-day, is one on which we have frequently dilated—the shocking atrocities of the London grave-yard system. Hitherto we have contented ourselves with general remarks, directed against a foul and horrible custom, with a view to some measure of curative legislation. But we appear, now, to accuse, to punish,—not solely to expose the system,—but to convict on clearest evidence, and point out to condign punishment—specifically—individually—by name, some of the worse than cannibals who have worked and profited by the atrocities. There is *policy* in this, as well as *justice*. The monster-evil is incarnate in its fautors:—to smite *them*, is to destroy it: and though the duty be invidious, there is crime in its neglect. In proportion as the Government is forgetful of its office, the more urgent becomes the interposition of the *public press*—that great atoner for all governmental deficiencies.

The first culprit we place at the moral bar of public justice—alas! that it is the only bar at which our laws will allow us to place him—is Mr. Joseph Davis, the sexton of the parish of St. Ann, Soho. Our charges against him are threefold. First, that he adopts a swindling and dishonest mode of arranging interments; secondly, that he connives at, allows, *orders*, for his own pecuniary profit, a most indecent, a most horrible, and revolting system of mutilating, chopping, sawing up, and stowing away the remains of the recently-interred dead; and, thirdly, which follows from the two preceding, that he for years has been foully and grossly offending against public health and decency. The grave-yard under Mr. Davis's care consists of about two acres; and when we state that the place was formerly entered by a descent of three steps, and now by an *ascent* of four, it is made *more* easy to imagine the immense amount of carnal decomposition pervading the whole upper strata. Twelve years since, it was full "as an egg," to use a grave-digging informant's term: but the ingenuity of Mr. Joseph Davis has contrived, since, to extract thousands on thousands of fees, by adding to the heap thousands on thousands of additional corpses. As the saving of space is, of course, in such a state of things, a primary consideration, Mr. Davis has adopted a plan of some ingenuity, which we now proceed to make known. Graves are opened by him on what the diggers call "speculation." It is a mode by which fourteen or fifteen coffins may be buried with the expenditure of little soil, and little labour, and yet give satisfaction to the surviving friends of each. A grave is dug twenty feet deep; some six or eight paupers are buried one after another, till twelve feet from the surface is reached—the grave being kept open ten or fifteen days or more, till disease, in its successive course of sad triumphs, has sent them the number required. Till this period, little ceremony is required; but as twelve feet is a depth for *respectable* interments—for fee-payers, in short—the economic arrangement can only be maintained by the aid of clever deception. Accordingly, a boarding is placed over the last pauper's coffin, a little of the clay is strewed over this, and it is

offered as a very eligible grave, newly-dug, and *single*, to the next person enquiring for a *purchased* grave. The respectable corpse, if the surviving friends be very anxious, is now covered a foot deep with clay, which is again thrown up to admit another tenant to-morrow; and so the deception goes on, till Mr. Davis reaches within about four feet of the surface, when four children are in succession deposited on the top of all—a process technically called, "putting them on the shelf"--when the grave is covered up and another 20-foot grave commenced elsewhere. If a party cognizant of this practice insists on a separate grave, he cannot be obliged with his wish, unless he consent to have a twenty foot grave, and pay about thirty shillings for extra grave digging. He leaves the ground with the consoling belief that he has, at personal sacrifice, secured an undisturbed resting place for his friend's last remains. Fond delusion! The corpse of the loved one has been covered with a boarding and a sprinkling of earth, and it will not be finally closed till eight or ten more corpses are added to the heap! We shall not enlarge on the shameless dishonesty and revolting inhumanity here evinced. The cruel deception played on the parties' moral feelings—the charges, as for fourteen separate graves, where the expense has been but for one—the indecency of such a money "speculation"—the public injury to the health of the neighbourhood of leaving the corpses exposed for weeks under a broiling sun or drenching rains; these are facts plain, undeniable, revolting, and for all their criminality, Mr. Joseph Davis is the responsible party.

But we are yet far from done with the dishonesty of this parochial functionary. Our readers need not be told that persons having liberty to place a stone over an interred corpse, must have purchased the right to the soil in perpetuity. Now, it is a common custom in this grave-yard for the men, under the direction of Mr. Davis, to remove these stones—the land-marks of the dead—from one position to another, in order to allow the grave-digger to possess himself of the grave so occupied, and appropriate it to the use of some fresh purchaser. The robbery involved in these customary transactions is the least evil: there are, besides this, the violation of the feelings of the survivors, whose most sacred memories and hopes, it may be, entwine themselves round the last abode of their cherished friend—the chagrin and bitter disappointment they must suffer, if they detect the cheat—the foul deception practised on them, if, less unfortunate, they do not—and, lastly, the grievous mistakes the transaction would lead to, if there were question of disinterment; considerations which might be added to without number, and enlarged on without measure, but which, alone, and without comment, stamp this infamous custom of gain, and low villainy, as one deserving of all infamy.

Now for our second charge—that Mr. Davis has been concerned in a wholesale system of mutilating the dead. In mentioning the smallness of the ground—its fulness long years since—the numerous interments that are yet constantly taking place—a moral necessity is shewn for such mutilations. Without them there could now not be a single inhumation in the ground. But we are not dependant on such deductions. We have the authority of *two workmen* who dug in the yard for years, that scenes take place in digging every one of the twenty-feet-graves we have mentioned, which defy, in their disgusting horror, everything that the imagination could conceive. Recently-interred coffins are frequently come in contact with—sometimes in tiers—the tenants of which are as perfect as on the day of interment. The work is not, therefore, stopped. A rope, an axe-mattock, a saw, a knife, a stove with shavings, are procured, and are thus used. The saw is to divide the coffin, if too new for the axe-mattock, an instrument peculiar to this kind of work. The knife is surgical — it is to shorten the corpse, by cutting through the joints. The *rope* being slung round the body, or a large portion, the corpse is drawn up to be "shoved"—our informants' word—into a hole dug for it by the side of the grave.* During this work of mutilation and butchery, the *stove*, filled with lighted shavings, is kept below to prevent suffocation from the escaping gases; the men being, meanwhile, kept in spirits by the abundant chewing of tobacco, and drinking of gin, supplied by the sexton. We have here supposed them to have come in contact with the whole length of a coffin in a state of good—we might say ordinary--preservation; but it often happens that the coffin, or tier of coffins, only *abuts* by a third or a fourth of its length into the newly constructed grave. What then happens? The saw—the knife—are in request. The coffin wood is thrown up above, and the "disjecta membra"—the head or legs, as it may be—are violently forced back with the shovel or mattock into the other and untouched part of the coffin; and the orifice being plastered over with dirt, no trace of the horrible circumstance exists! This is an ordinary occurrence of grave-digging—an occurrence of which Mr. Davis has been too frequently cognizant, and which two grave-diggers known to us can and *shall*—if asked—demonstrate the existence of, by putting their feet on the very spot, the scene and still existing testimony of these atrocities.

These are FACTS stated only in part, and these as briefly as possible to suit, not the magnitude of the abominations, but the limitations of our space; but we think that, thus slightly given, they furnish abundant evidence of the criminality of the person whom, in the discharge of our duty to the public, we have felt it necessary to fix in the pillory of social justice. Nameless and obscure as may be the culprit—countenanced and encouraged, as he may be, by higher offenders against decency—it would yet be neither just to allow such odious practices to pass unrebuked, nor wise—we have thought—to omit so favourable an opportunity of giving, in his punished person, a useful lesson to all who may feel tempted to imitate his example. In the absence of any legal tribunal at which he might receive the punishment he so richly deserves, we have fearlessly dragged him before that of the public—we have stated offences against him he dare not gainsay, and which certainly we should never have been foolish or wicked enough to charge against any man, unless urged on by public duty, and supported by irrefragable evidence.

We now leave Mr. Davis in the hands of his parish and the public; merely subjoining, as supporting the statements that have been made to us by grave-diggers who have long worked in the ground—the evidence of another, given before the recent Committee of the House of Commons. Edward C. Copeland gives us, in reference to this ground, the following information:

Do you think the occupation of grave-digging is very unhealthy?—I am sure it is; and I have seen them play at what is called skittles; put up bones, and take skulls and knock them down; stick up bones in the ground and throw a skull at them as you would a skittle-ball.

Who has done that?—Fox and a party who used to go there to assist him in digging.

Have you known of the handles and nails of coffins being taken away?—Yes, there have been a great many taken away off the coffins.

Who took them away?—Fox, the grave-digger; he died lately in Drury-lane.

Could the inhabitants, in looking out, see all this?—Yes, they could not be off it; for it is surrounded with back premises all round.

Have you heard of any leaden coffins being cut up?—I do not know that I have there; but I have known Fox take off the handles and take out the nails with a sort of crow-bar.

Did he keep them for his own use?—Yes, he sold them. What do they do with the bodies when they cut away the coffin wood?—They emaciate them; the flesh they leave in the ground, and take the bones to the bone house. I have seen them chopped up before they were a quarter decayed. About nine years this month, my father was laid there. I cannot answer whether he lies there now, or whether he is taken up and knocked about.

Suppose they came to quite a fresh coffin, what would they do?—*If it has been in three weeks, they would not mind cutting it in two. I have seen them not a quarter decayed before they have been cut to pieces with the pickaxes.*

We add, as elucidatory of this, the evidence of Bartholomew Lyons, who, having the fear of losing his situation before his eyes, was anything but a willing or accusing or untutored witness. However, the following facts came out; it will be seen how they bear on our statement:—

I have had graves 21 feet deep where I now work; I have got one grave now with three bodies in it; it is 21 feet from the commencement of it, and after I have got out a few hours and leave it open, the foul air will get in; it is 17 feet deep now.

Is the grave kept open?—It is not exactly open, there is about 3 feet of earth on the top of the coffins, and then it is covered over by boards, and then so much earth on the top of the boards.

* There is also a bucket used to carry up the more liquid part of the decomposed matter; its duties, however, often extend to the solids.

So that every time a body comes you open the 3 feet and deposit the coffin?—Yes, according to the size of the coffin, if it wil go down.

What is the custom that you adopt in digging graves?—These 20-feet graves are allowed by the board of vestry, and on purpose to make the ground last the longer, every fresh grave is to be sunk 20 or 21 feet, if we can get 21; we get it till we come to water, and then we cannot get any further. If we meet with any other coffin that cannot be removed, *we never touch it*;* but otherwise timber that has been down from 40 to 50 years, with nothing in it except the bones, we remove.

You remove everything that is not sound?—It is all decayed, the bones and all, *they have nothing on them*, and we sometimes break up the old coffins.

What do you do with the mass?—The bones we put in a bone-hole.

What do you do with the coffins?—We take that to the place where they steam the church, and burn the wood.

Who burns it?—The beadle burns it, I believe, what we do have.

What quantity do you get up in a week?—Where we dig one of these graves, *we may have three or four barrows-full*; that is where we have to dig a 20-foot grave; but there may be some graves where the coffins are decayed, and nothing in them but the bones, and then we may have HAD A DOZEN BARROWS-FULL, and that is chucked down to where the steaming place i, and the beadle burns them.

Do you usually find this gas and foul air coming to you from other coffins on each side of you?—At times, very soon after I have burnt it out, I shall have to burn it out again.

And if you were to stay there, what would be the effect?—It would kill me, or any one else.

In digging this depth and taking away the wood of these coffins, has it ever occurred to you that any bodies have fallen upon you? I never had one in a deep grave, but I had one once; before I was there a man of the name of Fox had the ground; I succeeded him; he is now dead; he was a bad character; he is dead about three weeks. I dug a grave on a Sunday evening on purpose to get ready for Monday; that Sunday evening, and it rained, I was strange in the ground at that time; and when I went to work on Monday morning I finished my work, and I was trying the length of the grave to see if it was long enough and wide enough, so that I should not have to go down again, and while I was in there the ground gave way and a body turned right over, and the two arms came and clasped me round the neck; she had gloves on and stockings and white flannel inside, and what we call a shift, BUT NO HEAD.

The body came tumbling upon you?—Yes, just as I was kneeling down; it was a very stout body, and the force that she came with knocked my head *against a body underneath*, and I was very much frightened at the time.

You were at the bottom of the grave, and as you were digging at the bottom, the body of this woman without a head fell upon you?—Yes.

From the side?—Yes, from the side.

Out of the coffin?—It HAD NEVER BEEN IN A COFFIN; it is supposed that they took the head off for the purpose of sale.

What depth were you down when this body fell upon you? About nine feet.

Might they not have cut through the head as they dug down?—No, this body was taken out of the coffin before; she only lay just on the top of the earth, a little covered over; if she had been buried any depth at all, three or four feet, she could not have fell on me, the shoring of the earth would have kept it up.

How many wheelbarrows-full of coffin wood do you say you take away every week?—Not every week, but when we are digging these deep graves I may take away a dozen barrows-full; taking it upon the average, I should say, that for every deep grave I should take a dozen large barrows-full of wood out of the grave.

What is your salary or perquisites?—I have no wages unless I do work, except that I have 18s. a quarter for doing the church bells; this week I have not earned a farthing yet; I have half-a-crown for every grown person I bury, and I have half the extra digging, if there is any extra depth, and *my master** has the other half.*

Do you mean to say that you would like to change?—I cannot stop there long; I suppose the grounds will be shut up; I have been there [now some years, and if I should happen to want anything, the gentlemen give it to me.]

* This, the witness now owns, is far from the truth, as is proved, indeed, by the subsequent part of his evidence.

* The sexton, Mr. Joseph Davis.

We shall next week have a few words on the Tabernacle Chapel and its Grave-Yard, Tottenham-court-road.

REVIEWS.

Food and its Influence on Health and Disease; or, an Account of the Effects of different kinds of Aliment on the Human Body, with Dietetic Rules for the Preservation of the Health. By MATTHEW TRUMAN, M. D., &c. &c. London: Murray, 1842.

This work is interesting more from the nature of the subject than the mode in which the subject is discussed. We have a great mass of information collected on the subject of aliment, which, though given in a very succinct manner, is both curious and important. The author seems to have aimed only at imparting what is known upon the subject, and never ventures upon the field of speculation, or shews the least tendency to originality of research. Yet the work is not unscientific; nay it is even likely to attain popularity with the public if not with the profession. Without following our author into all the details of his subject, we shall endeavour to place before our readers in a general way the most important features of the work. Our author defines food "to consist of all ingesta taken into the body by which nutrition is effected or assisted." We do not like this definition; it appears to us nonsensical and absurd. A wheaten loaf, though not eaten, is still food, and many things *taken into the body*, and which *assist* in effecting nutrition, can upon no sound principle be called food. A blue pill or a turpentine injection may improve the state of the digestive apparatus, and thus *assist* in effecting nutrition; yet we cannot live upon blue pills or turpentine clysters. Food is that which directly contributes to the nutrition of organized bodies; everything which does not directly contribute to this end must be excluded from the category. Hence we would exclude condiments and medicines, and everything that does not yield one or more of the proximate and oleaginous principles of animals and vegetables. Accoding to this last view, nutritive matters may be said to include only, 1st. proximate principles of animal substances—as fibrin, albumen, gelatine, osmazome, mucus, animal oils and fats; and 2dly. proximate principles of vegetable substances—as gluten, mucilage, farina or starch, sugar, vegetable oils. These proximate principles may be viewed as pure nutritious matter diffused naturally among animal and vegetable structures, and capable of being extracted from these textures either artificially or by the action of the digestive apparatus. The book before us shows not only the extended circle of animal and vegetable existence from which man draws his subsistence, but also the diversities of taste which different nations and races of men exhibit in their choice of aliment. The food of man is derived from every class of verebrated animals, viz., mammiferous, birds, reptiles, and fishes, and from two great subdivisions also of the invertebrated, the mollusca and insects. The food derived from the vegetable kingdom is more diversified in form than that from the animal; thus, we have not only seeds from which *bread*, the staff of life, is derived—as wheat, barley, oats, rye, beans, pease, &c., but we derive immense supplies of nutriment from tubers, roots, fruits, seed vessels, leaves, bark, pith, and the sap and juices of plants. One man's meat, as the Proverb has it, is another man's poison; and the abhorrence with which one set of men regard the aliment of another would seem to justify, in this sense, the application and truth of the adage. We can relish in this country a steak from the pope's eye of a fat ox, or a slice from a leg of five years' old mutton, but would feel rather *queasey* about dining on a shoulder of horse-flesh, even though garnished with savoury dog and cat sausages, and supported right and left with broiled rats and fricaseed moles; yet in Denmark and Sweden horse-flesh is sold publicly in the markets. Dogs and cats, as well as frogs and toads,* are eaten in Paris, and in China, rats and moles are used every day as articles of food. Verily we are a prejudiced people, and shall we never learn wisdom? Our author, as might be supposed, is an advocate for good cheer, and highly commends the practice so often followed in this country of commencing or terminating any important *commercial* transaction with a good banquet. He views the practice as a powerful motive to human exertion: we cordially agree, and would seriously recommend the learned author to extend his principle to *literary* transactions also, and we are sure we should then stand a fair chance of a good turtle and venison dinner from the author himself for our review of the next edition of his work—the present edition being an excellent *morceau*, or rather, a substantial lunch which is worthy, in sooth, of the rumination and digestion of our readers.

Case of Suicide, &c. By DR. ROBERT SPITTAL, F. R. S. E.

THIS is an interesting case in its medico-legal aspects. M. D, a washerwoman, aged twenty-seven, married and having two children, was committed to Edinburgh prison. M. D. shewed symptoms of delirium tremens on the day of committal; on the next seemed well and composed, but towards the evening was found lying on the floor dead, with her throat horribly cut, a jug broken in pieces lying by her side, one portion all bloody. The cell in which deceased was found was locked, as was customary, during service. The blood spilt was great; there was much in the cell-pail (as if deceased leaned her head over it) and in one of her shoes which was on, the other off; her hands were a little bloody, and clothes, particularly about the neck, &c. On examination, the neck was found streaked and marked with dry blood; shewed an irregular wound in the front of the trachea, extending from the lower edge of the cricoid cartilege downwards for more than an inch, and being about an inch wide. The edges were abrupt and had a rugged appearance, and altogether there was no doubt that the deceased, who was of irregular habits, and in the depressed state of mind of all persons who, accustomed to ardent liquors, find themselves in moments of adversity entirely shut out from their usual stimulus, had committed suicide with one of the sharper portions

* See Duchatel.

of the broken jug. The singularity of the case was, that some window glass and an iron spoon (instruments of more *obvious* lethal power) were lying unmoved on the cell-window. The immediate cause of death offers here some little difficulty; but we should be disposed, all circumstances considered, to agree with the author, and attribute it to the hæmorrhage, rather than to the entrance of air into the circlation.

ENGLISH PATENTS, MORE OR LESS CONNECTED WITH PHARMACY, CHEMISTRY AND MEDICINE GRANTED IN 1841.

Armes, John, Plymouth, painter, for a new and improved method of making paint from materials not before used for that purpose.—January 16.

Baillieu, William, Gloucester-street, Queen-square, musician, for improvements in apparatus to expand the human chest.—Dec. 23.

Barratt, Oglethorpe Wakelin, Birmingham, metal-gilder, for certain improvements in the precipitation or deposition of metals.—Sept. 8.

Bucknell, William, Westminster, gent., for improvements in applying heat for the purpose of hatching eggs; which improvements are also applicable to other useful purposes where heat is required.—March 22.

Burnell, John, the younger, Whitechapel, manufacturer, for improvements in the manufacture of leaves or sheets of horn, commonly called lantern-leaves, and in the construction of horn lanterns.—November 2.

Chesterman, Wm., Burford, Oxfordshire, gent., for improvements in filtering liquids.—June 23.

Clark, Thomas, Professor of Chemistry in Marischal College, Aberdeen, for a new mode of rendering certain waters (the water of the Thames being among the number) less impure and less hard for the supply and use of manufactories, villages, towns, and cities.—March 8.

Daniell, Joseph Clisild, Tiverton Mills, Bath, for improvements in the manufacture of manure, or a composition to be used on land as a manure.—October 7.

Dean, John, Dover, Chemist, for improvements in preparing skins and other animal substances for obtaining gelatine, size, and glue, and in preparing skins for tanning.—February 23.

Drew, Joseph, the younger, St. Peter's Port, for an improved method of cutting and rolling lozenges, and also of cutting gun wads, wafers, and all other similar substances, by means of a certain machine designed by him, and constructed by divers metals and woods.—September 6.

Dyer, Charles Bunt, Pary's Mine, Anglesea, mine agent, for an improved method of obtaining paints or pigments by the combination of mineral solutions with other substances.—March 16.

Elain, Alfred, Huddersfield, surgical-instrument maker, for improvements in apparatus or instruments for the relief and cure of Procedencia and Prolapsus Uteri.—September 20.

Evans, George, Dorset-place, Marylebone, for an improvement or improvements upon trusses for the relief of hernia.—March 29.

Fanshawe, Henry Richardson, the younger, Hatfield-street, Surrey, chemist, for improvements in curing hides and skins, and in tanning, washing, and cleaning hides, skins, and other matters.—June 10.

Furnival, John Bradford, Street Ashton, farmer, for improvements in evaporating fluids applicable to the manufacture of salt, and to other purposes where evaporation of fluids is required.—Oct. 20.

Furnival, James, Warrington, currier, for an expeditious mode of unhairing, mastering, and tanning various descriptions of hides and skins.—March 29.

Goldner, Stephen, West-street, Finsbury-circus, merchant, for improvements in preserving animal and vegetable substances and liquids.—March 8.

Gunter, Henry, Cullum-street, Fenchurch-street, merchant, for improvements in preserving animal and vegetable substances.—January 6.

Hancock, William, jun., King-square, Middlesex, accountant, for an improved description of fabric suitable for making friction-gloves, horse-brushes, and other articles requiring rough surfaces.—February 3.

Harwood, John, Great Portland-street, gent., for an improved means of giving expansion to the chest.—October 7.

Haughton, John, Liverpool, clerk, for improvements in the method of affixing certain labels.—June 19.

Henderson, Robet, Birmingham, china-dealer and glass-stainer, for certain improvements in apparatus for heating and lighting apartments, and for other like purposes.—Dec. 9.

Hills, Frank, and George Hills, Deptford, manufacturing chemists, for certain improvements in the manufacture of sulphuric acid and carbonate of soda.—April 15.

Hompesch, Theophile Antoine Willhelme, Count of, Mivart's Hotel, Brook-street, Middlesex, for improvements in obtaining oils and other products from bituminous matters, and in purifying and rectifying oils obtained from such matters.—Sept. 4.

Laming, Richard, Gower-street, Bedford square, surgeon, for improvements in the production of carbonate of ammonia.—March 15.

Lee, John, Newcastle-upon-Tyne, manufacturing chemist, for improvements in the manufacture of chlorine.—August 4.

Lejeune, Jules, North-place, Cumberland-market, manufacturing-chemist, for a means of condensing and collecting the sulphurous and metallic vapours which are evolved in the treatment by heat of all kinds of ores.—November 4.

Moleyns, Frederick de, Cheltenham, gent., for certain improvements in the production or development of electricity and the application of electricity for the obtainment of illumination and motion.—August 21.

Normandy, Alphonse Rene Le Mire de, Red-cross-square, Cripplegate, doctor of medicine, for certain improvements in the manufacture of soap.—Sept. 8.

Parkes, Alexander, Birmingham, artist, for certain improvements in the production of works of art in metals by electric deposition.—March 29.

Pattinson, Hugh Lee, Bensham-grove Gateshead, manufacturing chemist, for improvements in the manufacture of white lead, part of which improvements are applicable to the manufacture of magnesia and its salts.—September 21.

Payne, Charles, South Lambeth, chemist, for improvements in preserving vegetable matters where metallic and earthy solutions are employed. July 9.

Pinkus, Henry, Maddox-street, St. George's, Hanover-square, for an improved method or methods of applying electrical currents, or electricity either frictional, atmospheric, voltaic, or electro-magnetic.—May 14.

Shanks, James, St. Helen's, Lancashire, chemist, for improvements in the manufacture of carbonate of soda.—May 27.

Thomson, Anthony Todd, Hind-street, Manchester-square, doctor of medicine, for an improved method of manufacturing calomel and corrosive sublimate.—March 8.

Wheatstone, Charles, Conduit-street, gent., for improvements in producing, regulating, and applying electric currents.—July 7.

Young, James, Newton-le-Willows, Lancashire, chemist, for certain improvements in the manufacture of ammonia and the salts of ammonia, and in apparatus for combining ammonia, carbonic acid, and other gases with liquids.—November 11.

FOR INVENTIONS IN FOREIGN COUNTRIES.

[Arranged Chronologically.]

January 11. For improvements in impregnating and preserving wood and timber for various useful purposes.—Uzielli, Matthew.

January 26. For improvements in evaporating fluids, applicable to the manufacture of salt, and to other purposes where evaporation of fluids is required.—Furnival, John Bradford.

February 15. For improvements in obtaining a concentrated extract of hops, which the inventor denominates "Humuline." — Newton, William Edward.

February 22. For improvements in the process of and apparatus for purifying and disinfecting greasy and oily substances or matters both animal and vegetable.—Newton, William.

March 8. For improvements in preserving animal and vegetable substances and liquids.—Wertheimer, John.

March 17. For improvements in the manufacture of the carbonates of soda and potash.—Clough, William Thompson.

June 26. For improvements in producing and applying heat.—Poole, Moses.

July 13. For improvements of steam-baths and other baths.—Poole, Moses.

July 21. For certain improvements in the production of sal-ammoniac and in the purification of gas for illumination.—Philippi, Frederick Theodore.

November 9. For certain improvements in the production of ammonia.—Newton, William Edw.

[From *Prichard's List of Patents for* 1841.

ROUGH REPORTS FROM GUY'S HOSPITAL

Rupture of the Cephalic Vein with Laceration of the Biceps, and Treatment by Transfusion.

John Chart, carman, æt. 33, maimed, admitted into Guy's Hospital, Nov. 19, 1842, at 8, P.M. He was thrown from his horse, and the wheel of the dray passed over his arm and body, from behind, forwards. Profuse bleeding immediately took place, which was not restrained till his admission into the hospital. His habits of life had been regular, and his general life good. A contused wound over the front part of the right arm, partly tearing asunder the biceps and dividing a large vein, supposed to be the cephalic (?) from the manner in which the accident occurred, rolling the biceps inward and consequently allowing the basilic to lie underneath A roller was applied round the fore-arm, from the wrist to the wound, and cold lotion applied.—20th, slight oozing took place during the night, but nothing of importance.—10, A.M. Swelling of the limb had taken place during the night, and was extremely painful. The bandage was then removed and cold water applied.—6, P.M. Great effusion of blood from the elbow to the shoulder-joint and under the pectoral muscle, —9, P.M., Great depression; and it was deemed advisable to tie the vein, but the bleeding shortly after ceasing and the ecchymosed appearance not spreading, that operation was not performed, the wound, however, was enlarged. —11, P.M Mustard poultice, Hyd. Chlorid, p. opii. *a a* grs. ij. s. s. As it was evident he could not live much longer, transfusion was had recourse to, and two gentlemen immediately consented to supply the fluid. The left basilic vein was consequently laid open, and 18 or 20 ounces of blood injected, which produced symptoms of marked improvement; his pulse became stronger, and his countenance improved; previous to the operation he vomited once.—21st. 4 A.M. The symptoms of improvement did not increase, but remained at par.—6, A.M. Vomiting recommenced and continued till his death with but little intermission. His face became exceedingly pale and anxious. Effusion of blood in fore-arm not increased. At 8 A.M., slight motion.—10 A.M. Hyd. Chlorid. gr. i. p. opii. gr. i. s. s. brandy, beef tea and arrow-root.—11. A.M. Pulse scarcely perceptible; hurried respiration; eyes suffused: part of injection returned; enema.—1. P.M. Several large vesicles appeared over the shoulder-joint.—2½. P.M. ed.

On Dit.—Two gentlemen occupying the situation of dressers at Guy's, having quarrelled and exchanged blows in the Square, went out by agreement on Wednesday noon into St. Thomas Street, and enjoyed all the pleasures of a pugilistic encounter, surrounded by an admiring crowd.

PERISCOPE OF THE WEEK.

Extraordinary Case of Twins.—Dr. Jameson, of Dublin, was called on the 3d of April last to a lady, thirty years of age, the mother of four living children, who had been delivered on the preceding 13th of February of a son, by a midwife in the county of Wicklow. On that occasion the labour was completed in four hours, and the placenta came away ten minutes afterwards without any subsequent hæmorrhage; the patient recovered from this labor, and employed herself in her avocations, but remarked that the abdomen had not much decreased in size, which she attributed to bad swathing; general health good, supply of milk sufficient.—When Dr. Jameson was sent for, she was suffering from severe pains through the abdomen, recurring at uncertain intervals, and lasting about five minutes. On examining the abdomen during a pain, a firm, hard tumor was felt, reaching as high as the umbilicus, which became softer on the subsidence of the pain, and which was at once conjectured to be the gravid uterus. On applying the stethoscope over the tumor, after some difficulty Dr. Jameson thought he heard a placental murmur in the right iliac fossa, but no sound of the fœtal heart, from which he suggested the possibility of his patient's being with child, and then in labor. This idea, from the circumstances previously detailed, was at once repudiated, and a vaginal examination refused; but a short time afterwards, while the doctor was conversing with the husband, he was hurriedly summoned to the bedside of his patient, who told him something was coming from her. On making the examination during a pain, the head of a small child was found presenting with the membranes complete; and on the recurrence of another pain, the child, membranes, and placenta, were expelled together. The bag, which contained very little liquor amnii, was immediately opened, and it was found to contain a dead male child, at about the sixth month of gestation, shrivelled and dark, but not at all putrid or decomposed, and between eight and nine inches long. The cord was small, easily giving way under the fingers, but the placenta appeared to be fully as large as one belonging to a full-grown fœtus and healthy. The last time the patient menstruated previous to this pregnancy was in the latter end of April, 1841, and as she was confined on the 13th of February last, forty-two weeks must consequently have elapsed between the last period of menstruation and the birth of the living child, forty-nine weeks between the mentrual period and the evulsion of the dead fœtus.

Purulent Infection.—A man who died recently at la Charite, from an injury of the head, had fallen on his head, and become insensible. He was carried to the Hotel-Dieu, where he found himself so much better the next day that he left immediately; but he had scarcely reached home before he experienced tremblings and symptoms of an accession of fever, for which he was admitted into la Charité under the physician's care. The fever closely resembled an intermittent, and he was treated accordingly with the sulphate of quinine. He returned home some days afterwards, but continuing to experience rigors, he placed himself under the care of M. Velpeau, who at once pronounced a very different prognosis, and stated that the case would terminate fatally. In addition to the symptoms of intermittent fever, the man was continually feverish, with a dry tongue; he was in a kind of stupor, complained of dull pains in different parts of his body, especially in the epigastrium and right hypochondrium, in which there was a large abscess. There was also a large wound on the head, suppurating badly; the cranium was laid bare, and fractured. The man, instead of labouring under intermittent fever, was affected with purulent infection, and died soon afterwards. On examination of the body the skull was found to be fractured, but the broken bone was not depressed. The liver contained several large purulent *foyers*, and some were seen in the lungs. There was also partial peritonitis near the situation of the liver. The tremblings and rigors, which were looked upon as the forerunners of an intermittent fever, are, according to M. Velpeau, the indication of the introduction of a poison into the economy. Thus, when after a painful catheterism, such symptoms occur, practitioners say that the passing the catheter has been followed by one or more attacks of ague. This pretended ague, according to the professor, is no other than the indication that, under the influence of a modification with the mechanism of which we are not well acquainted, a certain quantity of urine has penetrated into the economy. It is an urinary affection, and so far from offering only the importance of an ephemeral fever, is on the contrary, a very dangerous symptom, for in many cases it indicates a fatal termination. M. Velpeau gives six or seven examples of this kind.—Sometimes these rigors are followed by arthritis of the knees, feet, and wrists, and suppuration is established with extraordinary rapidity in those articulations. All these symptoms arise from the same cause, the absorption of a poison into the economy, and intermittent fevers themselves have not any other origin. The trembling, which is the first period, is the sign of the introduction of the miasma into the humours. Most frequently, however, this poison is not so violent but that the economy can free itself of it; but, in certain cases of typhus, death follows very rapidly Purulent infection has been said to be nothing else than phlebitis, but M. Velpeau, has found the veins not inflamed in a great many cases where the purulent infection was very marked. It is certain that the pus is conveyed with the blood into the parenchymatous organs. where it acts in two ways; it is either transported *en masse* into the organ, and forms a deposit there, or else some globules only are deposited, which create irritation in the tissue, produce inflammation, and an abscess forms; it is very certain that this phenomenon may take place without phlebitis. The veins are sometimes healthy, sometimes they are inflamed at a distance from the primiti e collection, and it is not necessary to suppose the existence of phlebitis to explain this absorption. The veins which are near the pus may absorb it, and carry it to a distance. There may also be a genuine imbibition, and the inflammation which is so commonly observed may be only the effect, not the cause, of the absorption.

Abscess of the Liver.—The following case is given by Dr. Placida Portal, of Palermo. Ginseppi Capozzi, twenty five years of age, of a bilious temperament and weak constitution, after having had attacks of ague, and after having been cured of syphilis by mercurial treatment, experienced a feeling of weight in the region of the liver, attended with emaciation, constipation, yellow tint of the skin, and pains in the joints. On the 15th of November, 1839, a tumour was discovered in the right hypochondrium, presenting the following appearances:—It began under the right false ribs, caused the xyphoid cartilage to project very much, and threw its point forwards; it also occupied the umbilical region, and extended down to the middle of the right side; at its lower part it was prominent, hard, and painful, with deep-seated and obscure fluctuation; the skin that covered it was of a natural colour. The patient complained chiefly of pain and weight in the right hypochondrium. The abdomen was hard and distended in the epigastric region, but soft in the hypogastrium; the enormous size of the tumour prevented the patient lying on his back, and forced him to bend forwards when he was sitting He had anorexia and dyspepsia, and occasionally was troubled with nausea and vomiting of a mucous matter; the tongue was covered with a thin white coat; the face was of a deep yellow colour; the pulse, small, contracted, and slow; cough dry and fatiguing; urine scanty and limpid: the legs œdematous; and he had feverish symptoms, with rigors and burning thirst. Under these circumstances, Dr. Portal diagnosed abscess of the liver, which he opened as follows:—He introduced a trocar into the most prominent part of the tumour in the right hypochondrium, where the skin appeared to be thinnest, about two fingers' breadth below the ensiform cartilage. On the withdrawal of the trocar, a thick, very fœtid, brownish-coloured pus was discharged. Having next introduced a cannelated sound, he incised longitudinally from without inwards the linea alba and the fibres of the rectus abdominis; then introducing the finger, he dilated the opening to about four inches. An enormous quantity of pus was discharged, containing an infinite number of hydatids of different dimensions, and a pseudo-membrane a foot and a half square. A piece of linen, with simple cerate spread on it was introduced into the wound, a pledget of lint and compresses laid on it, and a body bandage placed over all. The patient was then put to bed and laid on his left side. Four hours after the operation the patient experienced severe pain, attended with high fever; the pain was relieved by the application of thirty leeches, and three poultices successively over the abdomen. He passed a good night, and the next day a large quantity of pus mixed with bile was discharged A canula of gum elastic, five inches long, with a calibre of five lines, was fixed in the opening to facilitate the spontaneous vacation of the pus. Forty-six days after the operation, the wound had completely cicatrised.

Hydropathy in England.—Dr. Hastings publishes the following letter of a gentleman, who purchased his experience at the establishment at Malvern. "As for hydropathy as a general specific, it is utter nonsense. Gout and rheumatism are relieved, and some cases of fever it succeeds in, and people of long standing habitual constipation seem to have benefitted, but in asthma, tic, acute diseases, dropsy, apoplexy, or surgical cases, it is of course an utter failure. Good is no doubt done by early hours, exercise, and abstinence, but a cure never or rarely effected. Dr. —— is a conceited, impudent, off-hand sort of a person, and he goes about telling everybody of his success and wondrous cures. He states he has cured Lord ——, but this I do not believe to be the fact. The general class of patients here are old Indians from Cheltenham, hypochondriacal ladies, and dyspeptics. What is useful in hydropathy will be added to general practice, and then it will follow St. John Long, mustard-seed, and brandy and salt. The system is new, and may, perhaps, last a year or two. On my arrival here I was subjected to the sweating process—four blankets and a feather-bed over me—and in ten minutes I felt giddy, the room ran round, lights came before my eyes, and just before consciousness departed I flew out of bed. Once more I tried it with a similar effect, adding vomiting to all the other disagreeables. Had I had a fit the danger

would have been imminent. I therefore gave up all idea of submitting to further mountebank folly. The whole affair is a humbug, as far as its being a universal cure."

Urinary Fistula.—M. H. Larry communicates a very curious case of urinary fistula cured by operation. The subject of the case was a female who had been long subject to urinary fistula situate beneath the umbilicus; the disease originated in inflammation of an ovarian cyst, containing hair, which had communicated on one side with the bladder, and on the other with the parietes of the abdomen. The contents of the cyst, composed of viscid and purulent matter, hairs, and calcareous concretions, had been discharged, at various times from both orifices. At length a large calculus formed in the bladder, and, getting entangled in the opening of the urethra, had forced the urine to issue, almost constantly, through the fistulous orifice in the abdomen. After considerable reflection, M. Larry determined on performing an operation founded on the principle of lithotomy, as practised above the pubes. With this object he divided the fistula freely inferiorly, exposed the cyst, extirpated a tumour to which adhered a long lock of hair, and followed the latter into the bladder, where it formed the nucleus of the stone, which he removed. The immediate effects of this very formidable operation were comparatively mild, and the patient recovered perfectly.

Engorgement of the Uterus.—Dr. Clement Ollivier, of Angers, speaks strongly against the use of differently shaped pessaries, which are employed indiscriminately for prolapsus uteri, without paying attention to the cause of the prolapsus, which, according to Dr. Ollivier, is nothing more than engorgement. Dr. Ollivier considers masturbation one of the most frequent causes of this affection in young girls, with whom it is very rare. By gradually inducing disorder in the uterine functions, it gives rise at first to a spasm of the organ, which affects the secretion of the menstrua; on the other hand, this excitement, if frequently repeated, finally brings on a more or less intense sanguineous congestion, which gives rise to a kind of impermeability of the uterine parenchyma, caused by a slight inflammatory affection; then the dysmenorrhœa, at a latter period, becoming habitual, induces amenorrhœa, which ultimately determines more dangerous diseases. Sterility is always an inevitable result, unless the diseased state of the uterus being arrested, allows those portions of the viscus which continue healthy to perform their functions; the catamenia may then reappear, but are almost always accompanied by uterine colics; the matrix may recover its powers of conception, but during gestation a period arrives when the uterus, not being able to enlarge freely, on account of the inflammatory action it has undergone before conception, reacts upon the product it contains, and almost always determines an abortion; in this way the pregnancies of women affected with morbid conditions of the uterus almost always terminate.—Masturbation, in causing a disordered condition of the entire uterus, produces more frequently an engorgement of the body of the organ rather than of the neck, whilst an exactly contrary condition obtains in women who have connection with men. In virgins the affection of the body of the uterus is more frequently found, that of the cervix uteri more rarely. Dr. Ollivier mentions, among other causes of engorgement of the uterus, the irritation of the sexual organs by primary connection, a cause of irritation of the organ the more dangerous, that it has hitherto escaped the notice of medical men, either because they do not attach sufficient importance to it, or because women conceal from them the knowledge of their illness, notwithstanding the sufferings they endure.—The dysmenorrhœa, which almost always follows abortions, is the result of an inflammatory engorgement more or less considerable, and susceptible of cure; this engorgement is the cause of the sterility that follows miscarriages.

The Starch Apparatus for Fractures.—One great objection to this apparatus has been, that when once put on, it remains a hard case round the limb, allowing no room for the necessary degree of tumefaction, and consequently endangering the safety of the member by inducing gangrene; and that, as the parts were hid from view, no timely warning was afforded of such accidents. According to the Dublin Journal, the inventor, M. Seutin, has now obviated this objection. He first applies a calico roller, moderately firm, round the leg; no starch put on the inside of this bandage, as it would stick in the hairs, and prove unpleasant to the skin when it hardened. After it is applied some starch is smeared along its surface; wherever pressure is wished to be avoided pledgets of soft lint are put; a soft pasteboard splint, a little starched on the inside, is then placed on each side of the leg, and then one behind the part about the heel and the hollow of the tendo Achillis being well stuffed with lint; a pasteboard splint is also put in front. These are secured by a bandage smeared with starch, the end of the bandage being turned down and stuck in front, so as to be easily found. More starched bandage was applied, till the whole was a firm and smooth case. This should be left for twenty-four hours; when it has become quite dry, it is then slit down along the whole front of the outside, in the space between the tibia and fibula, down to the end of the foot. When the sides of the opening are held aside, the state of the limb can be examined. If it is found to press too much on any part, a little lint can be inserted, so as to raise the apparatus from the place pressed on; should it be desirable, any part of it covering a wound, &c., can be cut away, to allow the proper dressings to be applied, and the discharge to be removed. Long bandages are preferred wherever it is requisite to establish a regular compression, and that the lifting up of the injured part may not entail inconvenience to the patient, sharp pain, derangement in the coaptation, &c. Short bandages, are reserved for contrary cases; they are disposed generally in three planes; it is between the layer in contact with the skin and the middle layer, that the pasteboard splints are generally placed; short bandages are especially employed in lesions of the pelvic extremity. The length or breadth of the bandages is proportioned to the part which ought to be covered with them. Folds should be repeated as seldom as possible, and never on bony eminences or excrescences, which should be defended by layers of wadding, lint, or some other such material, besides the bandage. It is important to leave uncovered the ends of the fingers or toes, whose variations of color and of temperature furnish a sufficiently just measure of the analogous changes of the other parts of the limb covered by the bandage. The compression exerted by this apparatus ought never to reach to that degree of violent constriction which practitioners, as little familiarised with M. Seutin's method as with the general principles of compression, have believed to be necessary for the resolution or prevention of inflammation. Compression, as understood by M. Seutin, ought to stop at a gentle methodical pressure, sufficient to moderate the afflux of blood, but not to stop it—a pressure which, in many circumstances, at the instant of its application, is only retentive, and which never acts on the soft parts, so as to be able to induce mortification in their tissues. The pressure should always be made to act from the extremities to the centre as evenly as possible, care being taken to avoid its immediate action on bony or tendinous prominences, excrescences, &c. The starch apparatus dries in the course of from thirty to forty hours after its application, but its desiccation may be aided by the employment of artificial heat, if needed, which, however, is better avoided, if possible. Unless the patient complain of pain, or much uneasiness in the injured limb, or the surgeon entertains fears of the state of the soft parts, it would be as well to defer the section of the bandage to the second or fourth day, when, if the apparatus fulfil the views proposed, it is made secure again with a starched bandage; if it exercise too much pressure, the edges must be separated, the interval being filled up with a little softened pasteboard; the exterior surface is then to be smeared with starch, and the apparatus surrounded by a starched bandage, very little compressed. Folds and plaits that press the skin irregularly are to be removed; the pieces that exercise injurious local pressure are to be wetted slightly with water; pieces of lint are to be inserted where necessary, and the whole to be surrounded by the starch bandage, care being taken to make a daily inspection to see that all is right. If the apparatus appear defective in any particular, it should be removed, having been previously wetted with tepid water, and replaced by another, less objectionable.

Calculus Vesicæ.—M. Dieulafey publishes several interesting cases with respect to the shape of the calculus in the bladder. He performed the lateral operation on a child, five years old, in whose bladder he previously had discovered a calculus by means of catheterism, the presence of which he also ascertained by passing the index finger into the bladder, but which he could not touch with the forceps when he had passed them into the viscus. The instrument was frequently passed into the bladder, but each time unavailingly; he found it impossible to lay hold of the calculus, the presence of which he had nevertheless fully determined by the finger and the catheter. The surgeon was very much perplexed by this, when his assistant opening the blades of the forceps to clean them, discovered a calculus, about the size of a little pea, in the midst of clotted blood in the teeth of one of the blades. During the manœuvres of the operator, the calculus had lodged in the teeth of the blades, and as it was not large enough to prevent their closing, its taking that position had not been noticed. The operation having thus terminated, the little patient speedily recovered; M. Dieulafey drew the conclusion, that, in every case of lithotomy, the blades of the forceps should be examined after they have been withdrawn from the bladder. In another operation of this kind, the same surgeon, after having ascertained the presence of the calculus in the bladder, introduced the forceps several times without being able to seize it. The blades were examined each time they were withdrawn from the bladder, but they did not contain the calculus, which was ultimately discovered in front of the incision, in a kind of cavity which opened in the membranous portion of the urethra, where its narrow and elongated form had allowed its entrance. The painful and fruitless researches which had been had recourse to, were not attended with any injurious results. In another child, scarcely two years old, although the stone could be felt with the finger, it could not be seized with the forceps in whatever direc-

tion they were inclined. The calculus was situated behind the prostate upon the trigonum of the bladder, and it was necessary to use the curved forceps to enable the operator to extract it. The calculus was perfectly round, of the size of half a franc in diameter, and exceedingly thin. M. Dieulafey attributes all the difficulties of the operation to the peculiar shape of the calculus.

Antidote for Corrosive Sublimate.—M. Mialhe says he has discovered from experiments that hydrated proto-sulphuret of iron, a perfectly inert substance, instantly decomposes corrosive sublimate; protochloride of iron and bisulphuret of mercury, two inert substances, are formed, from which valuable property he designates this sulphuret of iron as the best antidote for the violent poison alluded to. When a small quantity of bichloride of mercury is taken into the mouth, there is speedily experienced an insupportable and characteristic metallic taste. If now, the mouth be gargled with the hydrated sulphuret, in a thick state, such as it should always be used in, the mercurial taste is removed as if by enchantment. The antidote is not limited in its effects to the mercurial salts, it is equally useful in counteracting the deleterious operation of several other metallic salts, especially those of copper and of lead. The following is the mode of preparing the hydrated proto-sulphuret of iron:—Dissolve any quantity of pure protosulphate of iron in at least twenty times its weight of distilled water, deprived of air by boiling, and precipitate the iron with a sufficient quantity of sulphuret of sodium, dissolved also in distilled water, deprived of air. Wash the protosulphuret thus obtained with distilled water, and preserve it in stoppered bottles, filled with boiled distilled water. Although the preparation of this sulphuret of iron is very simple, and may be effected in a few minutes, yet it would be desirable to keep it always prepared, that no time may be unnecessarily lost in any case of poisoning. The precaution of preserving this sulphuret out of contact of the air, must be strictly observed, as it has a great tendency to pass into the state of sulphate.

Black Drop.—The following is said to be the original recipe published by Dr. Armstrong, for black drop:—Take of Opium lbss., Good Verjuice Oiij., Nutmegs ℥iss., Saffron ℥ss. Boil to a proper thickness, then add two spoonfuls of yeast, set the whole in a warm place near the fire, for six or eight weeks, then in the open air, till it becomes (the consistence of) a syrup, when it is to be decanted, filtered, and bottled up, with a little sugar added to each bottle; one drop equals three of tincture of opium.

Tests for Arsenic.—Meillet prepares pure zinc by first fusing commercial zinc and throwing it into hot water, by which it is obtained in the form of large grains. These are placed in a Hessian crucible, with alternate layers of saltpetre, equal to a quarter their weight; the crucible is covered and heated until the nitre burns and the zinc is perfectly fused; the slag is then removed, and the perfectly pure zinc poured out. Fordos and Gélis have remarked that the purest zinc, when treated with strong sulphuric acid, gives off traces of sulphuretted hydrogen, arising from the reduction of the sulphuric acid. Hydrochloric acid, which, as is well known, often contains sulphurous acid, also gives traces the same gas, evidently derived from the of sulphurous acid. Chevallier had already proved that Marsh's apparatus is not applicable to testing for arsenic when it is in the form of sulphuret; and consequently if much sulphuretted hydrogen were formed, the whole of the arsenic present would be converted into sulphuret, and the spots obtained will be yellowish. The spots obtained by Danger and Flandin are referable to this cause; the organic matters not being completely carbonised, sulphite of ammonia was produced; the sulphurous acid by its reduction gave rise to sulphur, and consequently sulphuret of arsenic, and the spots were therefore yellow. Wackenroder has proposed several methods to determine whether the spots obtained are owing to arsenic or to antimony; the only one which need be noticed depends on the crystalline form of arsenious acid. A metallic film having been produced, the tube (open at both ends) is held in a slanting position, and the ring is heated; a deposit is produced some distance from the place where the ring was, and which may be either arsenious acid or oxide of antimony. The tube is carefully broken, and one of the pieces brought under a microscope with a magnifying power of 900. If the crystals are regular octohedrons, they are arsenious acid; but if prismatic, oxide of antimony. This oxide never forms octohedral crystals, but only prisms.

On Aroma.—In the course of Chemical investigation, we are often surprised with the emission of odour, while we are unable to account for this peculiarity. An interchange of elements by the decomposition of two inodorous compounds, produces an effect powerfully fragrant and pungent. In the whole range of substances with which we are acquainted, there is not one more capable of eliciting aroma than ammonia. All volatile bodies are of course apt to increase the fragrance of a substance, by carrying the vapour with rapidity to the nasal organs, and diffusing it over a greater amount of surface. Ammonia, however, seems to possess a greater power than is dependent upon mere volatility. To illustrate this, Mr. — gives the following experiment:—I placed in a small still a watery solution of ammonia, and added a solution of essential oil of lemons and nutmegs in spirits of wine. The proportions of oil of lemons and oil of nutmegs were very small; the former being half a drop, and the latter one-eighth of a drop to each pint of fluid. Having adapted the head, I drew carefully over a quantity of spirit corresponding to spirituous solution added, and found it produce a spirit impregnated with ammonia, but of a very fragrant character. Its aromatic power was perceptible as well in its strong state as when reduced with water. The liquid remaining in the still, sent forth very fragrant exhalations, more particularly of the nutmeg. When we consider the minute proportions of aromatic essential oils employed, it certainly appears a case confirmatory of the statement of M. Robiquet, that ammonia lends as it were its volatility to bodies, the odour of which, without such an auxiliary, would be scarcely perceptible. Although the fact of the ammonia being in this case the exciting agent is evident, yet it is singular that after all the ammonial vapour has been driven over, the *caput mortuum* should retain a strong aromatic flavour. The subject of aroma is, however, altogether, involved in comparative obscurity. We know that some proprietary perfumes have gained celebrity, and from what circumstances?—the discovery of a new odoriferous plant or oil? No: but simply because the essential oils are mixed in certain proportions with spirit of wine. Some metals having no odour, emit most powerful exhalations when combined with an inodorous substance. In the manufacture of British Eau de Cologne, it is well known that the addition of a small quantity of the oil of orange flower (Neroli) alters the character of the perfume, and many other cases might be enumerated. Among the investigators of the subject of aroma, we may mention M. Fourcroy, who supposed that odours were merely the effect of simple solution of certain bodies in air. But M. Robiquet is much more conclusive and explicit. He says, when speaking on this subject, "aroma in many instances requires, for its development, the addition of some third body, which, though in itself possessing none of the characteristic odour, yet is absolutely necessary as an intermede, varying in its nature according to that of each odorous substance, as the mordaunt requires to be varied by the dyer, according to the nature of the colouring matter which it is intended to fix upon the cloth." This is certainly a plausible theory, and one which explains many of the singular effects produced by the mixture of substances in reference to smell. But does the addition of the third body, referred to above, not cause an alteration in the particles of the various bodies, thus preventing the organs of taste and smell discovering the predominance of a single ingredient, but receiving all as a new compound? The change is completed instantaneously and frequently, without any appearance of decomposition or chemical action, and sometimes without even difference of colour; can we, then, attribute the changes to a mechanical transposition of the particles of the substances combined, increased or destroyed according to the quantity of some one ingredient, which, when added, seems to usurp an authority, which it exercises by displacing the particles of other bodies, keeping itself concealed, but showing its presence by so far altering the odour of the compound? The subject thus briefly referred to is one of great interest, and may yet attract the notice of some able investigators.

Liquor of Hydriodate of Arsenic and Mercury.—The diseases in which practitioners have hitherto found the liquor of hydriodate of arsenic and mercury to be useful are the various forms of psoriasis, impetigo, porrigo, lepra, venereal eruptions, both papular and scaly, pityriasis, sycosis, ephelis, lupus, sibens, and some uterine diseases. The dose has been variously represented; Dr. Kirby is disinclined to doses exceeding twenty minims, and this quantity, he conceives sufficient to secure its curative effects. In venereal eruptions, Mr. Cusack found ℈i. or ℈ij. three times a day sufficient; but even when larger doses were given he did not observe any unpleasant consequences. It is certainly prudent to begin with Dr. Kirby's dose; but after a while a state of tolerance is induced, and then the medicine may be gradually increased at discretion

Lubanski on the Urine of Pregnant Women.—It is seldom as acid as in other individuals, occasionally it is neutral, and sometimes alkaline, and generally light coloured. Donnè suspected that the salts of lime for the most part are diminished during pregnancy, and that a part of them is taken to supply the materials for the formation of the fœtal bone; and he found in many experiments, instituted for this purpose, that by the addition of thirty parts of hydro chloride of lime to fifty parts of urine, there was a precipitate of from forty to fifty parts of salt of urine in common urine, whereas in that of pregnancy, the most he ever detected was thirty, and very often not near so much. Before making the experiment, the urine to be tried must be tested, to ascertain if it be alkaline or acid; and if acid, a few drops of ammonia must be added to render it alkaline, since the precipitate from phosphate of lime is soluble in weak acids. If the experiment be made with a solution of baryta, there will be in healthy urine a precipitate of from twelve

to fifteen parts of salts of baryta; in the pregnant, from five to eight. After twelve hours' rest, Lubanski found it decisive in three cases of pregnancy, where manual examination and auscultation proved unavailing. He proposes the following questions for investigation:—1. At what period of pregnancy does this diminution of the salts of urine take place? 2. Is it always constant? 3. In what relation does it stand to the increase of fœtal ossification? 4. At what period does it cease? With reference to the question of pregnancy, Donné has, out of thirty-six cases, only *twice* been deceived.

Something Strange.. The *Yorkshireman*, gives the following *morceau* on the authority of an anonymous correspondent writing from Bredlington. Our readers must take it for what it is worth. "Nature certainly occasionally stepped out of her way to produce extraordinary specimens of the human species. We have heard of ladies with four legs, but no arms; women with no hands, and who knit, write, and sew, with their toes; and various other natural curiosities, all of which sink into insignificance when compared with Franceina Kreon, a native of Wyk, by Dunsteede, in the Netherlands, about sixty miles from Rotterdam. She is a female of lady-like manners, and pleasing exterior, about thirty-six years of age. She is from the breast downwards covered with elongated beads, of a dark brown colour, these (incredible as it may appear) indubitably grow out of the skin, and are, to all appearance, as hard as stone; they occasionally shell off, and leave the skin bare for a short time. On their re-appearance they have a setaceous look, resembling a strong beard on the face of a man. All this time the skin is beautifully white, soft, and quite flexible, and may be rubbed double between the fingers. Her knees and elbows are covered with an ossified substance, re- an oyster shell in hardness, colour, and general appearance. Her hands and feet are covered with a kind of shell which, when held before a strong light, is transparent, and has the look of a petrified shell, and is undoubtedly a muscular substance ossified. Many of these peel off towards the end of the autumn, and disappear in the spring; one large piece, resembling a claw, is at the present time about dropping from the left foot. The fingers and toes are separated, and it is only between the latter that the skin is perceptible, and it is quite evident from their appearance that, but for the constant friction, they would be covered similarly to the rest. The bottom of the feet have an incrustation of a whitish horn colour, and is as hard as stone, and transparent as horn itself. There is a genial warmth through the whole frame—this living curiosity has a general run of good health, is of affable and agreeable manners, and takes considerable pains to satisfy the curiosity of her visitors. She is about to visit York and Scarborough, and thence into the north; and will doubtless, become an interesting study for the numerous naturalists, physiologists, and talented medical men with which those places abound."

MEDICAL NEWS.

Mesmeric Operation.—In addition to this extraordinary feat in surgery (Mr. Ward's) we have to add that an operation took place in this parish on the 19th August, when a medical gentleman, to cure a contraction in the knee joint, put a female in a mesmeric trance, and while she was in that state, divided the hamstring muscles without her being conscious of the circumstance; and we are happy to add that the individual now walks with facility.—*Hampshire Telegraph.*

A Medical Consultation in the East.—Whilst I was stationed in Cephalonia, one of the wealthiest merchants of Argostoli a native, was seized with fever, and became so dangerously ill that his life was despaired of. I was requested to see him in consultation. In the ante-room of the patient's bedchamber the family were assembled, the ladies regularly seated as on an occasion of ceremony. Three physicians of the town were present. After examining the sick man, who, strange to say, considered himself then actually dead, and spoke of the folly of prescribing for a dead man, and who, in consequence, after his recovery, was facetiously called by his friends, *il morto*—after inquiring into his present symptoms, we adjourned to the ante-room, and, in the presence of the assembled company, discussed the case; and this was done by the Greek physicians in the most formal manner, each in turn giving a kind of clinical lecture, in which the history of the disease was traced, the rationale of the symptoms given, the supposed exact nature of the malady, and its nosological place assigned, and a mode of treatment proposed, founded on the views taken. It was an ingenious theoretical display of ability, each striving to appear to most advantage; but it need hardly be observed, that it was better adapted to impress an audience with the cleverness of the speakers, than to be of practical use to the patient. In the discussion there was no reserve in the use of terms, on account of female ears: no indelicacies seem to have been imagined by either party.—*Davy's Notes on the Ionian Islands.*

Obituary.—We regret to have to announce the death of Mr. Daniel Cooper, the Editor of the "Microscopic Journal."

Sense of Honour.—We are authorized to announce, that Mr. Erasmus Wilson has thrown up his management of the "The Lancet."

MEETINGS FOR THE ENSUING WEEK.

Dec. 12, Monday,	Medical Society of London, 8 p.m.
	Geographical Society, 8½ p.m.
13, Tuesday,	Roy. Med. and Chir. Society, 8½ p.m.
	Zoological Society, 8½ p.m.
14, Wednesday	Roy. Medico-Botanical Society, 8 p.m.
	Geological Society. 8½ p.m.
	Pharmaceutical Society, 8½ p.m.
15, Thursday,	Royal Society, 8½ p.m.
16, Friday,	Botanical Society, 8 p.m.
17, Saturday,	Westminster Medical Society, 8 p.m.
	Mathematical Society, 8 p.m.

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SUMMARY.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c., &c.

(LECTURE I., Delivered December 2, 1842.)

Gentlemen, it is my office to bring before you the subject of the diseases of the nervous system. In introducing the subject to you, I shall go very rapidly through the anatomy and physiology of that system. I do not think I need go very deeply into the science, because many of you have very probably, listened to the more eloquent words that have fallen on this subject from Mr. Grainger in this theatre.

The nervous system is divided usually into two parts: the first has been called the cerebro-spinal, and the second the ganglionic system. You often hear of the phrase *spinal marrow*, and the question will be for us to discuss what has been meant by that term. I need hardly tell you, that along the spinal canal a chord of nerves runs, which has been very improperly called the spinal marrow. I would venture to call this a chord of cerebral nerves; for it is quite plain that, from any idea of the subject that we have formed, it is neither more nor less than a chord of nerves proceeding from the cerebrum, and passing along the spinal canal, and out of that into the different members of the body. We will, therefore, view it a few moments as it ought to be viewed, as a mere chord of spinal nerves running along the spinal canal. But there is another view to be taken of the subject, for you have, no doubt, studied the *ganglionic* system. Now the ganglionic system is traceable through its nerves, also to the spinal canal—at any rate it is traceable to the spinal nerves, and, therefore, the spinal chord may be viewed also as the source of the ganglionic system. Farther than this we have not proceeded. Until very recently we viewed the contents of the spinal canal as a chord of central nerves, and the origin of a part of the ganglionic system. Now, gentlemen, it is very possible to remove the *cerebrum*, the centre of those nerves, and the *ganglionic* system, and yet leave *another kind* of nervous system remaining in the animal body. I shall take this early opportunity of showing you a simple experiment. You see here an animal (a frog), from which the head has been separated, and, of course, I need not tell you, that with the head the brain has been entirely removed; all the viscera have also been removed, and with the viscera every portion of the ganglionic system. Now, I beg leave to repeat,—the cerebrum, the centre of the spinal chord of nerves, and all the ganglionic, have been removed from this animal, and yet when I pinch the extremity, it moves, so as to be obviously perceptible at the remotest part of this theatre. Thus, as I said before, we have here removed the centre of the cerebral system, and the entire ganglionic system. The brain, which we know to be the centre of all the sentient and voluntary nerves has been removed, the ganglionic system has been removed, and yet you observe something remains. Now, gentlemen, that which remains I venture to call in contradistinction from what has been termed a chord of cerebral nerves, and the origin of the ganglionic system—the *true spinal marrow*. It is plain, in the first place, that it is not a mere chord of nerves; if it were a mere chord of nerves, you might divide it, and then you would intercept its influence. But, if you observe, here, this influence passes not only from one extremity to the other, but it also passes from the one *set* of extremities to the other set of extremities; thus, it is quite plain that there is a nucleus of nervous matter between the two anterior extremities, and another nucleus between the two posterior extremities, by which these various limbs are united and associated in their motions one with another. Having thus, then, clearly laid before you the distinction which I wish to insist upon; namely, that there is not a division of the nervous system into *two* parts only, but into *three*, pervading all the different parts of the whole animal frame, I shall venture to term them, the cerebral, the true spinal, and the ganglionic systems.

The cerebral system has the brain as its centre. It consists of sentient nerves, which proceed from the ultimate parts of the animal frame to the brain, and other nerves which go to the muscles, and which may be termed voluntary. Nerves, therefore, which convey sensation, and nerves which convey volition may be called the system of sensation and volition, and I need hardly tell you that between sensation and volition you always see an intellectual operation. There is between all these nerves an organ, the cerebrum, for intellectual operation. The cerebral system, then, is the system of sensation, intellectual operations, and of volition and voluntary motions.

Now, I am about to mention a fact to you, which is exceedingly interesting, because of its important application to pathology, and, therefore, to practice. But first of all, I must mention, that the principle which acts in the brain is the immortal soul. With regard to the substance of the brain itself, what I wish to insist on is, that it possesses no power of sensation, and no power of exciting motion; that is, if you take an animal, and lay the brain perfectly bare, and lacerate the brain in every possible way you can devise, you cannot in any manner induce pain or sensation—you cannot in any manner induce muscular motion. This point is so important that I beg leave to repeat it; and, indeed, I may mention a circumstance which will enable any of you at any time without inflicting the slightest suffering to convince yourselves of this fact. Perhaps not many of you have seen the mode in which horses are killed. The usual mode is to take a pole-axe, and strike the horse on the cerebrum, and it falls down instantly. But the horse is not dead; it is not altogether dead to sensation, because most of the brain is entire, and there is a certain portion of that organ which is the organ of sensation. If you take a small instrument, or a cane, and pass it through the circular orifice made, and lacerate and injure the brain surrounding the orifice within, in any way you think proper, you will not induce the slightest pain, neither will you induce the slightest muscular motion. Therefore, it may be said, that the organ, which is the central organ of sensation, is insensible; that that organ which appeared to be the organ of certain motions, is incapable of exciting motions. This I should mention is one circumstance, which, to my mind, shows that intellectual and sensitive functions are not the functions of mere organized matter. I take it then for granted, that this mass of cerebrum is insensible and incapable in itself of exciting any muscular motion.

Now with regard to the pathology of the brain, I mean rather to the functional pathology of the cerebral system, I need only tell you it consists of modifications of sensible and of intellectual power and of modifications of voluntary acts. So that where you find morbid sensibilities, and morbid developments of intellectual faculties, and morbid developments of voluntary motions, you may take it for granted, that the brain, as the centre of all the cerebral system is affected. With regard to the therapeutics which may be said to have their operation through the cerebral system, I need scarcely say a word. It must consist in what has been called the moral treatment.

Now, Gentlemen, I pass on to the other system—*the true spinal system*, and I do it the more readily because I am more than ever anxious to show you how a knowledge of this system is absolutely essential to you, entering on the practice of physic; and the treatment of diseases of the nervous system particularly,—how important it is in diagnosis and prognosis, and how important it is altogether in practice. The central part of the true spinal system is within the spinal canal; I venture to call it in contradistinction to the spinal chord of cerebral nerves, the centre of the ganglionic system, the *true spinal marrow*. It is the cerebral organ of a number of phenomena and a number of actions, and a number of functions; one or more of these I will show you; indeed I have already shown it in this animal (the frog) which you see to be perfectly alive in that sense of the word. It lives, as it were, a true spinal life; it is neither sensible nor is there any spontaneous or voluntary motion. The organ of sensibility, and, therefore, of voluntary motion, is taken away. There is no ganglionic system, and nothing is left but the true spinal system; the true spinal marrow; the nerves that run into it, and the nerves that run out of it. The first characteristic of this system is, that it is carried on through the medium of incident and reflex nerves. For, what takes place when you inflict a wound on the toe? Of course, it is quite certain that the impression induced, produces some change, running along the nerves, and these carry it to the spinal marrow, by which it is reflected back again to the muscles, and so it is that the limbs are caused to move. You see, therefore, that the anatomy is characterised by one special word; it is *incident* and *reflex*. The incident nerves run up to the spinal marrow, the reflex nerves run from that organ, and whenever we produce a motion, we produce it through the medium of this system; we produce it through the medium of this peculiar anatomy. It passes from the point intimated, up to the spinal marrow and thence down to the muscles. So the operation is altogether reflex, at least, there are only one or two exceptions in the animal frame to this very general rule.

The next point to which I wish to draw your attention is the peculiar property, faculty, or function of this spinal marrow. A very short time ago I said, lacerate the cerebrum as you may, you cannot produce either sensation or motion, but the moment you make an experiment, and touch the true spinal marrow, then the whole muscular frame is thrown into violent convulsions. The true spinal marrow then is *excito-motor*. The brain is *in-excitor*. This power was described by Haller as the *vis nervosa*, because it exists not only in the spinal marrow, but also in the different nerves going from it. If the nerve is irritated, the muscle to which it is distributed, is thrown into contraction. If instead of irritating the nerve, you irritate the spinal marrow, you produce contraction in all the muscles which receive their nerves from below the part irritated. Haller and Müller, and all the authorities, have said hitherto that this *vis nervosa* acts in one direction only; that is, from the centre towards

the circumference, from the spinal marrow towards the muscle to which the nerve goes; but by recent experiments, it has been determined that this is not true, in fact, that another law besides this, which may be considered the *direct* law, obtains with regard to this peculiar function. If in the lower order of animals, if in the cold blooded animals, you irritate the spinal marrow, the muscles, the nerves of which take their origin *below* that point will be called into action, but a number of muscles that receive their nerves from *above* the parts irritated are also called into action. In this case the influence presents both a direct and retrograde action,and the same power acts upwards, and to the right and to the left, to the superior extremities, and to the inferior extremities. In the former direction its agency is not so energetic as in the latter. If you irritate one of the cutaneous nerves coming from the skin, if in the cold-blooded animals, you have still the same action as before. What must have taken place? The energy of the *vis nervosa* must have been excited, and an influence sent in an incident direction, then in an upward or retrograde direction, as well as downwards, to both sets of extremities. It acts first of all in an incident direction, then upwards, then downwards, and lastly into both sets of extremities. It is exceedingly important to notice this with various objects; in the first place to correct the erroneous view which has been laid down by the physiologists I have mentioned, and others, that this power acted only in one direction, that is *from* the spinal marrow *to* the extremities of the nerves; and secondly, to set forth this new law, viz., that it acts in the opposite direction, in a retrograde manner as well as to the extremities, and lastly, in an incident direction, which may be called retrograde with regard to the nerve.

We have now a very clear view of the mode of operation of this *excito-motor* function — these incident and reflex nerves — this reflex action. Now the question comes to be, whether we have any applications of this function? whether this function be created in vain? or whether there be a set of phenomena and functions connected with this source of function—this *motor* power? Gentlemen, it would be very extraordinary if the power did exist, and therefore were created, without an end or without a design. But there *is* a vast design here; for there is precisely a parallel series of functions to be performed through the medium of this *excito-motor* principle. Before referring to these functions, I will first of all give you a list of them: in the first place, there are the orifices into the body—these are guarded by that function; in the second place, there is ingestion, and, for instance, inspiration and deglutition—these are all conducted under the influence of this power; then there are the acts of expulsion, the expulsion of the fæces and the semen—all these expulsions are conducted in various degrees under the influence of this power; and, lastly, there are certain organs that prevent certain materials that ought to be retained in the body, from being expelled from the body — all the sphincters are under the immediate influence of this power.

When I go over the subject anew, as I do at this moment, just talking to you as I would to my intimate friends in common conversation, I do confess the subject strikes me with a little wonder at its extent and magnitude.

I say, then, that ingestion and expulsion depend on this *excito-motor* power. Formerly, we knew one part of the nervous function exteriorly to be, that of the cerebral system—destined for the observation of external nature—to obtain a mental knowledge of the objects seen around us. This is the function of our mental relation with external things. There is another function formerly well known; that is, substances which are taken into the interior animal frame, are diffused so as to nourish all parts, to be taken up, and carried away from the system by other organs, and so on. This, of course I need not say, is performed by the ganglionic system. The cerebral system, by which we have relation with the external world, is well known; the ganglionic system, which makes use of every thing taken into the interior, also is very well known. But I believe it was never determined by what power certain substances are taken into the interior of the animal frame, to be so made use of, and other substances rejected from it. To say one word respecting the most considerable, the most important, and the most extensive of these functions—*respiration.* We breathe for ever; from the beginning of man to the close of life, we do not cease to breathe. This act of breathing is entirely under the influence of this *excito-motor* power. From the moment the fœtus is born —the moment it passes from a warm medium into a cold medium—the moment this takes place, the whole surface of the body is convulsed by the cold medium, and immediately, through the medium of this *excito-motor* system, inspiration is excited, as under the influence of cold water. On going into a cold bath it is totally impossible to suppress sudden acts of inspiration, which are called into action in a moment.

Here, then, we have one of those phenomena never explained until the *excito-motor* system was explained by myself. In fact, I may say, former physiologists were obviously wrong on this point, who, including Müller, and after him Sir Charles Bell, supposed the medulla oblongata as the exciting cause of acts of respiration. Now the medulla oblongata is not the exciting cause of any acts of respiration; in fact, every act of inspiration is caused by and through the nerves going from the exterior to the interior, through every joint of the body to the medulla oblongata, through the medium of the excito-motor power, as the source from which the nerves that pass through the system receive their excitement. One very interesting point appears to me, that so far from the medulla oblongata being an excitor of inspiration, it is not the excitor of any physiological effort; but it is the excitor power under certain circumstances of *pathological* acts. For instance, in the state of *asphyxia*, which takes place when you put an animal under cold water, what are the phenomena of *asphyxia*? They have been all confounded with the act of respiration, and with the lungs by the act of expiration. If you induce asphyxia in an animal under water in a temperature of 98 deg., I beg you to observe, that it is quite astonishing how soon the struggles end. It is quite astonishing how soon the brain is poisoned,and insensibility induced by the circulation of undeglutinized matter. These struggles cease almost in an instant, and then what takes place? It has been said that attempts at inspiration take place. Gentlemen, this is not the fact; and I have continually and repeatedly assured you, and so have others in this room, that respiratory efforts are not efforts of inspiration, but expiration. Take a young frog, and you observe the system is thrown into a state of exhaustion; the stomach is compressed as well as the lungs, and a vomiting is produced by this apparent act of expiration; the act is not only one of expiration, but it is produced by the power of undeglutinized blood on the central part of the spinal system. Here we have action obtained by that mode; here is the *primum mobile*, and here it ceases to be a physiological act, and becomes a *pathological* act; and it is quite extraordinary how important the diagnosis comes to be. I will illustrate the subject by another example which I think will strike you all. Have we not in all works on pathology, universally seen that *tetanus* and *hydrophobia* are linked together, as being diseases of the same character, and produced in the same manner; and, in fact, having the same pathology? Gentlemen, it is so far from being the case, that uniformly *tetanus* is a reflex action excited through the medium of incident nerves, which produce their effect on the spinal marrow which spreads the action over the whole muscular system. Whereas, in *hydrophobia*, the blood is poisoned, and the blood acts on the spinal marrow: as in the one case you have incident or reflected action, in the other you have the spinal action. In the one the action is produced by the medium of the incident nerves, and the other action is produced through the medium of the blood on the spinal marrow, carrying its poison through the cerebral system, and thence to themselves and nerves, and is reflected, and so every muscle is affected in this case. Then, I have said, I would only illustrate the subject by one case; but there is another fact so very important, that I must mention it. It has long been a question with some, how morbid agents act on the animal frame? How do poisons act? You find in all works they have been divided between the vascular system and the nervous system, and some have been so unphilosophical as to suppose, that poisons act both ways; both through the medium of the nervous system, and through the medium of the vascular system. I can tell you in one word,what acts through one medium and what through the other. If you inflict a violent burn, the action is external, and corrosive poison acts internally; they act through the medium of the nervous system. All poisons that act slowly, you will observe, act through the medium of the vascular system. The subject is, therefore, well worthy of consideration. You observe it has a most immediate application to pathology, diagnosis, and to practice.

Here I will just leave the subject of this *excito-motor* system, because, as you are perfectly aware, this course of lectures is not on the nerves, but on the treatment of diseases of the nerves. Before I leave it, however, I want to impress on your minds one point, about which I am exceedingly anxious. I have stated already one broad fact to convince you that a knowledge of these various actions of the nervous system is absolutely necessary in practice, in diagnosis and prognosis.

Now I will suppose a case of disease of the brain. Gentlemen:—A disease of the brain cannot—*quasi* a disease of the brain—produce one muscular action. As I said before, disease of the brain cannot, as a disease of the brain, produce a muscular action. It may be acted upon so as to produce morbid indications, but it cannot produce spasmodic actions. Why cannot it do it? Because it does not possess the power. I have already stated the brain to be insensible. The brain is not capable, lacerate it as you will, of inducing any spasmodic or convulsive action of itself. Suppose then, in disease of the brain you have at the same time spasmodic action, what is the conclusion to which you must come? You must come to this conclusion. Diseased as the brain may be, it is not confined to the brain; it must inevitably extend beyond the brain, some other part must be affected. If the disease of the brain is not removed, it will extend to some other part entered by the *vis nervosa*. Here you have at once the diagnosis of diseases confined to the brain, also of diseases attacking the brain, and also of their extension to other parts of the system.

There is another view of this subject, which is not only worthy of your attention, but worthy of your attention as practitioners, as I suppose you will assuredly become. I am exceedingly anxious to impress on your minds this important fact, that it is the study not merely of anatomy, not merely of physiology—and not one of you can become a practitioner without being a physiologist—but it has its immediate application to the practice of physic. It has been truly said by some professor, a very amiable man, a short time ago, that it is often the fashion to walk the wards of the hospitals without being able in many morbid cases that occur, to determine the *excito-motor* phenomena of various diseases of the nervous system.

One word more on this subject. I have hitherto spoken a few words on physiology and a few words on pathology. I will just add a few words on another branch connected with it, namely, *therapeutics*, and in a very especial manner *therapeutics* is connected with the subject I have been laying before you. Why? It would be very extraordinary if there were this power in the human or animal frame, and it had not this application to pathology, but also to the treatment of diseases. There is one agent acting through the medium of this system of nervous influence, and that is in the sudden immersion in cold water. What would you do in a case of child-birth in a state of asphyxia? The first and important remedy after an immersion of the child, is to throw cold water on the face, and excite inspiration, as in the case of common asphyxia. In drowning, the same remedy may be applied. There are a thousand other cases in which you can use the cold water. I have a very interesting letter from the country this very day, written by a gentleman now residing at Stamford, a gentleman to whom I am indebted for the beautiful illustrations in my work on the nervous system,

published a year ago,—Mr. Simpson. He says, alluding to a very interesting case of convulsions, the patient was roused from a state of stupor to a state of consciousness. She had an extraordinary degree of obstinacy; she would not swallow anything. I put the instrument in her mouth, but she would not swallow any food. I threw cold water on her face, and she swallowed it immediately. In this manner I fed her, and repeated the experiment from time to time. But this was not all, for the child was not born. Every attempt to excite the uterine system to contraction failed. My friend laid bare the uterine region, and applied the douche of cold water to the surface. Instantly the uterus was called into action. This was repeated until at last the skin of the abdomen became cold. Of course the cold water on the surface could not produce it. The child was born, and the woman was saved. Here then you have a distinct application of the *excito-motor* system to practise, and there are many others I shall have to mention to you in their turn when I come to discuss the various diseases. I will only mention one more in concluding this subject. I need hardly tell you that there arises a sort of sickness in all nervous movements, which is always produced by irritating the nostrils, and causing what sometimes takes place in action of a morbid kind, and of a convulsive character. Sometimes we wish, as in cases of poison, to excite vomiting. Before you can get a remedy, or an emetic is prepared, or the stomach pump is brought in, before you do anything, you can irritate the nerves, which will produce the desired effect. I tell you this that the irritation of the fauces which close the larynx, and the organs of respiration, and forcible pressure being applied to the abdomen, vomiting may be produced. Is not this important to know, in the possibility of such an emergency as that of a patient having swallowed a dose of laudanum unintentionally, or any other poison! There is another fact I will yet mention in conclusion. We know that *cantharides* have an effect on the neck of the bladder, and we also know their effect on the uterine system. We also need know how this remedy acts with reference to the excito-motor system. On this point I may mention the case of a patient who had taken that substance in excess. I mention it in order to know what is the effect produced by cantharides.

It produces a state of things precisely like epilepsy or strangulation. The patient seemed as if she should be strangled, and nothing would relieve her but throwing cold water on her face—in fact, to convulse the larynx.

I have said enough to convince you, I believe, that we have very much to learn in use and practice by pursuing this subject of the excito-motor system. This lecture is not a lecture on the excito-motor system, but it is on the subject of diseases of the nervous system generally, and I will take care that I will not occupy you too much with a subject that may be considered a favorite one of my own, with the study of the diseases of the cerebrum and the spinal marrow. All that we know of the diseases of the spinal marrow—all that we know of the diseases of the ganglionic system—what is it that we do know? Next to nothing. All we do know is a little of the anatomy and physiology, and a little of the pathology. Perhaps one of the most important parts of the pathology of the nervous system, is the peculiar effect produced on it by the motions of the *excito-motor* power.

I will mention a fact or two, in conclusion, to convince you. Take a frog, at a certain season of the year, and by slow degrees remove the brain, a part of the brain and spinal marrow, then another part of it, and then the whole of it, acting by degrees, and leaving an interval of an hour between the operations, then remove the whole brain and the whole spinal marrow, leaving the ganglionic system alone, but entire. Then you have left the perfect action of the heart, and you have the perfect circulation of the blood, and the perfect action of the lungs. Now, then, if with an animal so prepared—so destitute of every part of the nervous system except the ganglionic—if you just take a hammer and crush one of the limbs, you immediately arre t the act on of the hea t. But the act on goes on afterwards, palpitating, though not as before, because the circulation is never restored; therefore the ganglionic system has received an impression which immediately produces its effect on the heart, which can no longer carry on its offices as before. An accident will do the same thing. I will mention but two cases, and then I will leave the subject, having already, perhaps, exceeded my hour. You remember the case of the late Mr. Huskisson, the first victim to the discovery of the railroad. It was when the Liverpool and Manchester railroad was opened; he was addressing some conversation to the Duke of Wellington, when he received an intimation of the train approaching; he was absent, or had not presence of mind for the moment, and he was run over by that dreadful vehicle. You all know the consequence. His leg was crushed, and the heart immediately received an impression. The surgeon waited very properly for reaction; reaction never took place, and amputation never could be performed. Here you have an action produced through the medium of the nervous system, upon the heart, the consequence of which was to exhaust its power and prevent its carrying on the function, so necessary for life, as circulation. One fact more. You know the history of General M——. Both limbs were wounded, and one was amputated, when the surgeon said, "I am sorry to say I must amputate the other." The general, with all the bravery of his nature, said, "Proceed with your work, gentlemen;" he sunk under the second operation. He did not recover from the second infliction of violence—physical violence—inflicted on the ganglionic system which the second operation brought about. Here then you have a double fact. In the first place, if we wish to amputate a second limb, what should we do? We should wait until the impression made by the first was entirely removed. We have also this fact, that the impression is made expressly through the medium of the ganglionic system. I am anxious to give the whole view of the subject in the short space of a few words, and on Monday we shall proceed further into the subject.

ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR, TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. SERRES, Member of the Institute, of the Academy of Medicine, Professor to the Museum of Natural History, Paris, &c., &c., &c.

SUMMARY.—*Reproduction of human embryogeny in the organisation of animals—The tail as existing in the embryo of man from the fifth to the seventh week—The optic lobes; their mode of development—The cerebral hemispheres—The cicatricula an independent being—The blastodermic membrane—The digestive tube; its early formation—Relation of organogeny with zoogeny—Zoonites—Differences and analogies between organites and zoonites, with regard to their mode of existence, and the various forms under which they become associated.*

In my last lecture I have shown you that human embryogeny is merely a repetition of comparative anatomy; we shall now, however, find that human embryogeny is itself reproduced, in some points, in the organization of animals. What is there more remarkable than that singular tail-like prolongation presented by the human embryo from the fifth to the sixth and seventh week? If any character of a prominent nature distinguishes man from the mammifera and *quadrimani*, it is assuredly the absence of the tail. In the embryo, however, we find that this appendage does exist, an outward sign of the resemblances binding man with the chain of beings of which he constitutes the head. A further peculiarity presented by this characteristic is, that it is at the period of its manifestation, or during its duration, that the organic repetitions of comparative anatomy are reproduced. Thus, it is at this period that the penis, the clitoris, the prostates, the womb, &c., of the embryo, are counterparts of these organs in certain adult animals; it is at this period that the fractional state of the cranial and facial bones in the embryo represents the permanent or normal condition of these parts in the mammifera, reptiles and fishes. It is also at this period that the liver, the kidneys, the intestines, and the heart, are transiently clothed with the forms of these organs in the lower animals, and that the human brain is disguised under the characters belonging to fishes, to reptiles, and to birds. Lastly, we may state, that this tail-like prolongation has merely an ephemeral existence, like all the other organic resemblances of the embryo; it disappears in the course of the third month; and it is from this period that man, leaving behind him all other organized beings, advances by large strides towards the type of organization presented by him in after life. This change is especially interesting in reference to the series of metamorphoses which the brain undergoes in the embryos of the superior mammifera. Having ascertained the primitive analogy of its elements through all classes, it becomes necessary and indispensable to explain its dissimilitudes in adult animals, for these elements changing in form and position, and undergoing in each class new transformations, the whole brain is so far modified, that that of one class is not distinguishable from that of another, a fact which has hitherto prevented our perfectly understanding its nature, and which ever would, if we persisted in confining ourselves to its consideration solely on its permanent phases, and only *after* it has undergone these extraordinary phases.

To prevent our being misled by these continual changes, we must follow step by step each of these metamorphoses through all classes; and by taking into account the influence which the evolutions of one element exercise over the others, we shall be enabled to trace the brain through all its transient forms, until it reaches its permanent or normal condition. Such is the course which I propose to follow in the elucidation of this subject. Let us take either the tubercula quadrigemina, or the optic thalami in the three lower classes:—In all embryos these bodies are lobular, double and hollow; they occupy in all classes the superior surface of the brain, bounded behind by the cerebellum, and in front by the cerebral hemispheres. In their various evolutions these primitive relations alter considerably. In reptiles and fishes these bodies preserve the same form, the same position and relations. Not so, however, with birds and the mammifera. In birds they remain, as in reptiles, upon the superior surface of the brain, up to the middle of incubation. At this period they abandon this position, becoming gradually projected towards the sides of the peduncoli of the pineal gland, and finally occupy the base and sides of the brain, where they are met with in all perfect birds. They, however, preserve, as in reptiles and fishes, their internal cavity. In the mammifera alone this cavity is obliterated, and these bodies become solid, like the spinal marrow. This solidification takes place, as in the last named part, by the deposition of concentrical layers. Originally these bodies are lobular, double and hollow, as in the three lower classes, and they preserve this form up to about two-thirds of the period of gestation in the animals composing this class. At this period, which corresponds to the epoch when their cavity becomes obliterated, we see appear upon their surface a transverse groove which divides each tubercle into two. These two lobes are converted by this groove into four distinct tubercles, hence receiving the name of corpora quadrigemina. If in birds the optic lobes become arrested in their progress, they preserve the same place in which we observe them among reptiles and fishes. If in the mammifera the transverse groove does not manifest itself, these tubercles remain oval, hollow, and merely divided into two, as in the three lower classes.

Secondary differences arise in birds from this displacement of their optic lobes. In fish, reptiles, and mammifera, these bodies remain in their primitive place; the transverse layer which unites them above, experiences no modification. In birds, however, the case is different: in proportion as the lobes are separated one from another, their surface unfolds itself, the median layer which unites them extends itself, so that in adult birds, we find in the place which they occupied at first, and which they preserve in other classes, a large radiated commissure, composed of alternate series of white and grey matter. Such are the outer modifications shown by these bodies in the four classes. But however great the differences presented by the four

solid tubercles in the mammifera compared to the two hollow lobes in reptiles and fishes, whatever change in position may be experienced by these parts in birds, we see that it is always the same organ, disguised only by these different metamorphoses. Let us now consider the cerebellum. As soon as the two transverse layers forming it are united with the structure composing the valve of Vieussens, this organ is formed in all classes by a small oval portion, constituting an arch above the fourth ventricle. If the cerebellum is arrested at this period of its development, it preserves in animals its simple and elementary form. This is the case in all reptiles and the greater number of bony fishes. But, suppose that before the union of the transverse layers, the medulla oblongata becomes greatly enlarged, and that these layers do not increase in the same proportion, what then occurs? We see that the union of these layers does not take place upon the median line; they become folded one upon the other without uniting; the medullary layer of Vieussens remains floating upon the fourth ventricle, which it partly covers. This is the case with certain cartilaginous fish. Fish and reptiles then preserve the embryonic forms of the cerebellum, and permanently resemble, in this respect, the embryos of the superior classes. In the latter, the cerebellum acquires considerable dimensions, its surface is grooved with more or less numerous transverse lines of variable depth; at the same time it forms upon the sides and top of the brain a more or less marked projection. But these dissimilitudes produce no change in its tendency; it is still the same organ reduced in the two lower classes to its minimum of development, and carried to its maximum in the two upper classes.

It, however, appears more difficult to bring the cerebral hemispheres of fishes to a level with those of the mammifera: for we see on the one hand organs of great simplicity, and on the other organs exceedingly complicated, having no manifest relation with the first, either in form, configuration or structure; all those characters which serve anatomists to recognise the *homogeneity* of organs being absent, one would be tempted to believe that these parts were altogether dissimilar, and had no analogy one with another. But on tracing upwards the uterine life of the mammifera, we at first perceive the cerebral hemispheres rolled up, as in fish, into two vesicles isolated one from another; afterwards, we see them assume the configuration of the cerebral hemispheres of reptiles; later still, they present the form of those in birds; and, lastly, they acquire only at the period of birth, and sometimes even later, the permanent forms presented by the adult mammifera. The cerebral hemispheres arrive then at the state observed in the superior animals only by a successive series of metamorphoses. If it were possible to develop the various parts of the brain in the lower classes, we should successively make of a fish a reptile, of a reptile a bird, and of a bird a mammiferous animal. By atrophying, on the contrary, this organ in the mammifera, we should necessively reduce it to the encephalic conditions of birds, reptiles, and fish. Nature, in some cases of monstrosity presents this latter anomaly; but never have observers noticed instances of the former. In the numerous irregularities experienced by organised beings, we never find them surpass the bounds of their own class to assume the forms of a superior one, never do we find a fish assume the encephalic forms of a reptile, the latter those of birds, or birds the development of the mammifera. A monster may present a repetition of its various parts; it may have two heads, two tails, six or eight extremities, but it always remains strictly confined within the limits of its class. This phenomenon is undoubtedly characteristic of the general harmony of the creation.

We thus perceive that the differences of the brain in the various classes are principally composed of metamorphoses; that its dissimilitudes are established upon one common basis; that the fundamental organ remains the same in all. We thus see that if these evolutions become arrested in an animal during the course of its transformations, such animal must necessarily present the organic forms of the class at which it is arrested. But the essence of animality resides neither in the vessels and the heart, nor in the brain and its dependencies, nor in the genito-urinary system; a being may exist and live without the presence of these organisms. Not so, however, with the nutritive apparatus: life can be maintained only by the absorption of assimilative molecules; it is this property alone that endows an organism with its capability of life. Hence it follows, that in descending the animal kingdom, we see beings at the bottom of the scale reduced to an absorbing vesicle, and, on mounting to the highest possible point of embryogeny, we also find the rudiments of the embryo constituted by a similar vesicle. Animality and life commence in both cases by a similar organic apparatus, reduced in its assimilative properties to the most simple conditions possible. Thus the *monada*, among the infusoria, are represented in embryogeny by the proliferous vesicle recently discovered by M. Purkinje. The *volvoces*, &c., are reproduced in the early embryonic state by the *cicatricula* of the ovum; for the *cicatricula* is already a being having a peculiar kind of existence, similar to the conditions of vitality among the lower infusoria, and the development of the *cicatricula*, and that of the embryo, the elements of which it contains, are the result or product of its life. Thus, in comparing the development of the *cicatricula* of the chicken, with that of the lower animals and the infusoria, we see that the first rudiments of the mucous layer of the blastodermic membrane are represented by the mucous membrane of the *volvoces* and *proteus*, that the intestinal folds of Wolf, which correspond to the primitive duality of the intestine of the chicken, are, perhaps the true state of intestinal duality in several species of *vorticellæ* and in the embryo of the *anodonta*.

To this primary state of the digestive canal of the chicken, succeeds a second not less remarkable; this consists in its division into three parts,—a median, the most imperfect, although central, and two peripheral, or external portions; a mode of formation represented by the embryo of the lobster, in which M. Rathke has seen the isolated development of the gastric and of the intestinal portions. Again, is not this imperfect state of the alimentary tube a reproduction of the permanent condition of the intestinal canal in the vermicular *animalcula*? Is not the invagination of the double digestive canal of the earth-worm, the *balanus*, &c. a permanent representation of the mode of formation in the embryo of the lobster? We thus perceive that whatever imperfection may exist in the first rudiments of the intestinal canal in the embryo of the vertebrata, we shall find its counterpart in the permanent organization of the inferior animals.

The lower animals also reproduce in a very evident manner the following metamorphosis of the embryonic intestine of the bird. We know that when the three parts of the digestive canal become united, this canal is straight and merely of the length of the young embryo; now, such is the case with most of the zoophytes. We know also that at the period of this union, its two extremities are closed, that it is a double cœcum; now this double cœcum is an exact repetition of the second alimentary tube, affixed in the ordinary intestine of the earth worm—an arrangement to which M. Ch. Morren has given the name of *typhlosole*. Such is also the case with the greater number of *vibrions*, *cyclides*, and some of the *tricodes* among the infusoria. We know again that the double cœcum of the embryo opens at first by its anterior part, so that if its nutrition, as some physiologists still think, is partly accomplished by the intestinal canal, the same opening serves the purpose both of mouth and anus; now, we are all aware that this imperfect arrangement of the alimentary canal is precisely that of the greater number of zoophytes, especially of the *pennatula*, the *renilla*, the *alcyonea*, &c.; also of several species of the *tricodes*, among the infusoria. We know, finally, that at a more advanced period of embryogeny, the intestine is open at both extremities; that there then exists an anus distinct from the mouth.

That is the permanent condition assumed by the alimentary canal in the lower animals, presented to us in a transient manner during the embryogeny of the vertebrata. The one condition is the reproduction or the repetition of the other. Organogeny is, then, but a transient comparative anatomy, and comparative anatomy a permanent embryogeny. Numerous examples may be found of this concordance of human organogeny and comparative anatomy. We see in the beginning the isolated state of the organisms in the human embryo, as well as in animals, together with the ultimate association of these elements; so that these organic elements being invariably given, nature associates them to their highest degree in the development of man, and maintains them disassociated in various degrees in the development of animals. From this association and disassociation result organic forms; the form of the organs is then merely a secondary condition, and its variations are as numerous as the combinations of the elements producing them. The globular, cylindrical, spherical, or demi-spherical forms, are those towards which the *organites* tend in their associations; whence it follows reciprocally that from their disassociation results the decomposition of the globular, spherical, or demi-spherical form of the organs which they constitute by their union. Now, in human embryogeny, organogeny is directed towards raising the organs to this high point of association; it therefore follows that the higher we proceed in embryonic life, or the nearer we advance towards the original condition of the organs, the more will the organisms be found to be disassociated or isolated. Such, also, is the case in comparative anatomy. There are, however, some differences between these two branches. In the human embryo, the organisms during their development traverse quickly through their primitive forms; they glide rapidly through them to arrive at their proper and harmonious condition. The definitive result of this development is then to associate the organs, and to combine their elements so as to form a compact group of the various parts which the young embryo presents at its commencement. In animals, the same tendency to unity of the organisms is manifested throughout the whole animal series and in each of the organs constituting them; but it fails either entirely or in part. The effect of this failure is then the disassociation of the materials constituting the organisms. It therefore follows, 1st, that the disassociation of the organisms, which, in man, is only transient, is, on the contrary, fixed and permanent in animals. 2d, That the various organic forms resulting from this disassociation, fleeting in man, are constant and fixed in animals. 3d, That animals, considered with regard to the formation of the organisms, permanently represent the embryos of the human race.

This mutual relation of organogeny and comparative anatomy leads to that of zoogeny. An animal is a compound of organs, as an organ is a compound of organic elements. Association or homozygy unites and harmonises these organs together, in the same way that it combines the materials constituting them. Such being the case, can the formation of the animal be brought under the same laws as that of the organ, or, in other terms, are organogeny and zoogeny mutually related to one another? This question presents great interest, for, according to the system of pre-existences, it was taught that animals, as well as organs, were pre-formed in every part; such as they now appear, so had they always been at the various periods of their existence. We must then enquire, in the first place, whether there really exist elements of animals, as we find elements of organs; whether these zoogenic elements can become combined and associated one with another so as to produce a variation in animality, in the same way that the organic elements are associated and combined to vary the nature and form of organs. The solution of these questions may, methinks, be traced in a certain manner by organogeny. I may remark, that there are elementary animals of the most simple kind, as also there are primitive tissues and organites formed by the most simple combinations. These simple or primitive animals have been designated by the term *zoonites*, by MM. Dumal, Moquin,—Sandon, and Dugès. The *zoonites* are in some sort diminutive animals, as the *organites* are diminutive organs; and in the same way that an organite may carry on its function in

an isolated state, and concur by its association to a common action, so may a zoonite live isolated, as it may also by its association bring its share of life to a common stock. The *monades*, the *volvoces*, the *acephalocysts* are free zoonites. The difference which exists between an organite and a zoonite depends then less on their constitution than on their dependence or independence. In this consists the fundamental principle. An organite is always dependent, its life is always subordinate to that of the individual of which it forms a part; a zoonite is always independent, it has a life peculiar to itself. So that by conceiving an organite which had lost its dependence, we should picture to the mind a zoonite, in the same way that a zoonite ceasing to be independent would become converted into an organite. Thus the ovules composing the ovary in the mammifera, in birds and reptiles, are organites; they are parts possessing a common character. The immediate result of impregnation is to separate the ovule from its associates, to isolate it, and render it independent. It is then in this state a zoonite capable of passing freely through its various evolutions. We may, however, have the inverse of this take place in nature; for we sometimes see zoonites as the *monades*, the *volvoces*, the *ascidiæ*, and even the *biphora*, which have a separate and independent existence, become united to others of their own species; from independent they become dependent beings, quitting their individuality to become associated with their fellows, and thus passing from the state of zoonites to that of organites. This important fact may, perhaps, throw some light on organogeny. For, in this point of view, what should prevent us from considering the serous membranes or vesicles, before they become associated with the organs, as species of zoonites which by their association become organites. I might also show that the serous vesicles which become accidentally developed are and remain zoonites (*cysticerci*); but my object was to establish that, in zoogeny, the zoonites or elementary animals may exist in two different states; that they may be either free or associated, very similar to the organites or elementary organs which we find either associated or disassociated in the phenomena of organogeny.

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

Delivered by C. J. B. WILLIAMS, M.D., F.R.S., Pofessor of the Practice of Medicine, and of Clinical Medicine, at University College.

GENTLEMEN,—By a careful comparison and discrimination of the details I have given with regard to congestion, determination, irritation, and inflammation, you will be able, in all ordinary cases, to make an accurate *diagnosis* between them; and to do this with readiness is, as you must at once see, a matter of no little importance in practice. I shall now only give you a very brief summary of the leading features:—We found that in *congestion* there is, as compared with inflammation, little pain and heat, and that the redness is much less intense; also, that there is less tendency to the production of changes in the structures affected, and that the fever accompanying inflammation is either absent altogether, or else assumes a much lower character. We found that in *determination*, there is likewise no alteration produced in the structures, and very little in the secretions,—that the fever is much more evanescent than in inflammation, and that the pain is much less considerable. The increased local pulsation and various other little points distinguish it from congestion. The next state requiring to be carefully distinguished from inflammation, is what has been termed *irritation*, by which, in the present case, is meant simple exaltation of the property by which impressions are excited in a part, or communicated from one part to another. Now, in nervous subjects, as we have already noticed, causes *un*connected with inflammation, may excite all the sympathetic signs that inflammation commonly produces; for example—inflammation of the stomach causes vomiting, which depends upon excitation of the stomach, abdominal muscles, and the diaphragm, and yet, as you all know, vomiting may arise in numberless instances, in which nothing like true inflammation can be suspected; it may arise from congestion, from the presence of various foreign substances, from even mental impressions, and, in short, from any cause that will be productive of *irritation*. It is clear, then, that we must find some symptoms or signs that are *peculiar* to inflammation before we can be justified in stating, that inflammation is present. In simple irritation there is no *heat*, no *redness*, no *swelling*, although there may be very severe *pain*. Irritation does not produce much perversion in the functions of a part, whereas this perversion is a very leading character in the influences of inflammation; for example, suppose a case in which lumbar pain was experienced in a severe degree; that the testicle was retracted; that the loins were tender on pressure; and that, in consequence of the severe pain suffered, the heart's action was somewhat increased, and general excitement of the constitution was present, in fact, that there was slight *fever*, how should we decide whether the cause of the symptoms was *inflammation* of the kidneys (nephritis), or whether all was owing to simple *irritation* of the nerves without any inflammation whatever? We should naturally have immediate recourse to the condition of the *function* of the kidney, and ascertain the state of the *urine*. If, on examination, we found it copious, clear, and of usual and healthy colour, we should conclude at once that the kidney was not the seat of *inflammation*. Thus you see the state of a secretion may be the point upon which your diagnosis would turn. If any mechanical irritation, however, existed, such as a calculus, we might find the appearance of the urine altered by the presence of *mucus*, although there was *no* inflammation. Again, you know, that *fever* is a great characteristic of inflammatory action, whereas, in irritation, there may be entire absence of hardness or sharpness of pulse, heat of skin or continued perspiration and the like. It is true the heat might be increased temporarily, but it would not be *permanent* like that of inflammation. It has been supposed that the serum from an inflamed serous membrane always contains a number of granules (epithelial cells), which is not the case when only *congestion* is present. So much for the *diagnosis* of inflammation. We shall now proceed to the subject of its *prognosis* or *probable termination*. The probable event of inflammatory disease must depend upon its *seat*, *extent*, *advancement*, and the nature of its *product*, as well, of course, as upon the stamina of the individual in whom it occurs. With regard to the *seat*, I need scarcely say, that the more important the organ, the more dangerous, cæteris paribus, will be the inflammation, and, as a consequence, the less favourable will be the *prognosis*. It is also equally obvious that the greater the extent of surface over which inflammation prevails, the less likely it is to be subdued. Again, as to the *advancement* of the disease, our prognosis would be much more favourable in the *early* stages, because at that period our remedies have by far the greatest influence. The state of the *functions* generally is an important guide to prognosis; the less these are affected the more favourable will be our opinion. I shall notice the products of inflammation presently.

To sum up, the prospect is good when the previous health has been, and continues, sound—when there is little constitutional derangement—when the inflammation is slight—when the sensorium is little affected, and the secretions not much perverted. Under these circumstances the antiphlogistic treatment is most effectual, and can be best borne. Inflammation occurring in good constitutions ought always to be cured, and when the organ affected is not important. On the other hand, the prognosis will be *un*favourable, when the inflammation occurs in *weak* constitutions, whether such debility arises from age, from excesses, or from previous disease; when the inflammation is far advanced, and the system has been long suffering—when there is some depressing influence on the powers of the system as an animal *poison*, or something modifying materially the nutritive processes, as are found to be the case in *scrofula*; when the secretions are greatly disordered, and an important organ is extensively affected—when symptoms, indicating a low condition of the habit, such as brown tongue, fetid urine, feeble pulse, and the like, are manifested, Under all these circumstances we must be very cautious how we hold out sanguine expectations of a favourable result. One great reason for a bad prognosis when the system has become weakened, is, that the season for employing antiphlogistic measures has passed away.

We have next to notice the ordinary ways in which inflammations may be considered to produce a fatal result. We shall find that they may be divided into *four*. In the first place inflammation may prove fatal by directly impeding the *vital* functions; thus, inflammation of the brain causing effusion and consequent pressure, so that the cerebral function, which we know is essential to life, becomes impaired and destroyed. Again, inflammation of the lungs proves fatal by the injury produced upon the all important function of respiration. We may say that death is produced in both cases by asphyxia. Inflammations affecting the heart, kidneys, &c. are also fatal, by impairing necessary functions. The same is true of the intestines. The second method of termination is by the sympathetic depression in the action of the heart. Thus inflammation of the peritoneum causes great prostration, and the patient dies of syncope. A third termination is caused by means of the *products* of inflammation *poisoning* the system. Examples of this are seen in the absorption of gangrenous matter—pus, and the like. Erysipelas and hospital gangrene may prove fatal on the same principle. The fourth, and last method, is *gradual exhaustion* of the *whole vital powers* Thus in cases of *extensive* suppuration, the strength of the system is gradually reduced, so that no vital energy remains, and death, as a necessary consequence, takes place. Abscesses in the liver, lungs, &c., may also, by their constant drain upon the constitution, end in the same way.

It now remains for us to consider, and that very attentively, the *treatment* of inflammation, and seeing that the disease itself is so complicated, and consists of various elements, it is only reasonable to expect that the treatment founded upon the elements should be somewhat complex also. Some of the elements may be regarded as more essential than others; thus *congestion*, *determination*, *exaggeration*, and alteration of the *nervous* functions appear to be *essential*. The *general* functional derangement and excitement of the heart, constituting inflammatory fever, and the altered condition of the blood may be regarded as less essential. Each element may be present in different proportions in different cases of inflammation, and each may be opposed by different remedies. We find also various *combinations* of the elements. I have prepared a tabular arrangement for you, which I think will give you a more concise view of the elements and their treatment.

ELEMENTS. INFLAMMATORY	ANTIPHLOGISTIC REMEDIES DISEASE.
Local Inflammation.	
Congestion	Stimulants, Astringents.
Determination	Derivants, Depletion.
Iritation of Versels	Sedatives, Derivatives, Evacuants.
Iritation of Nerves	Narcotics, Counter Irritants.
Fever.	
Increased action of Heart and Arteries	Blood-letting, Sedatives, Relaxants
Diminished Secretions	Evacuants, Alteratives.
Change in the Blood	Blood-letting, Alteratives, Evacuants.
Results of the Inflammation.	
Effusions	Evacuants, Rubefacients, Discutients.
Softening.	
Suppuration.	
Ulceration.	
Gangrene	
Adhesion, Induration, &c.	

When one irritant causes dilatation of the vessels to which it is applied, a second one may produce contraction, and thus disperse the accumulation to which the first gave rise. Thus we may often treat successfully the first or congestive stage of inflammation by astringents or stimulants, as in slight inflammations of the eye. The operation of these two classes of remedies is distinct, although they are frequently confounded. Thus simple astringents, as cold, acetate of lead, &c. act, by diminishing directly the calibre of the capillaries.

Whereas stimulants operate by causing determination to the congested capillaries, and thus sweeping away the accumulated blood. I readily ascertained this last mentioned fact by causing congestion in the web of a frog's foot by means of a little capsicum, and then applying a drop of essential oil, the result of the latter application was to enlarge the capillaries by producing determination to the part, and thus sweeping away the congested blood. This is rather dangerous work in practice, yet when judiciously regulated may be highly useful in putting a stop to threatening inflammation. In slight cases of sore throat, astringent and stimulant gargles are often beneficial. Cayenne is with many a favourite remedy, and it operates not merely as an astringent, but it relieves the overloaded vessels by increasing the secretions. Again, in slight disorders of the stomach and bowels, in which a low degree of inflammatory action is probably present, emetics and purgatives are beneficial; these stimulate the parts, and cause the secretions to be augmented. Nitrate of silver may be useful in cases of slight ulceration of the intestines. It has also a remarkable influence in *erysipelatous* inflammation. Some suppose that its application causes a new kind of inflammation, which arrests that previously existing; others say that the progress of the erysipelas is stopped by the nitrate of silver causing lymph to be thrown out around, whereby the first inflammation is circumscribed. The utility of stimulants is seen in the good effects often produced by stimulant inhalation in some cases of bronchitis. Heat and cold are frequently used in inflammation—cold astringes—heat stimulates; but it acts chiefly as a derivant on the adjoining vessels. If there is a considerable determination, these remedies will fail to produce much benefit. Evacuants and derivants must be used; we may try bleeding. In tonsillitis we may scarify, and then use astringents. If there is much blood in the system, this must be diminished (as well as removing blood from the immediate seat of inflammation), although there may be only little inflammatory *fever* present. When, in addition to these, there is considerable *pain* and *nervous* irritation, the treatment must consist in the addition of *sedatives*;—of the local sedatives there are, perhaps, few more effectual than cold; solution of lead is very useful. In inflammation of the stomach, it is very beneficial to swallow ice, also to drink cooling saline solutions, such as nitre, citric acid, &c. These can only be trusted of course in *slight* inflammations. When inflammation is chronic, we may employ more decided astringents, such as the nitrate of silver, sulphate of zinc and the like.

EXTRACTS FROM FOREIGN JOURNALS.

(Translated from the 'Gazette Medicale' For the 'Medical Times.')

FRENCH.—*Extraordinary case of Catalepsy, with Transposition of the senses, observed at Caen.* By Dr. Duvard.—Mlle. Melanie, born of parents who had always enjoyed good health; one of her elder sisters, however, had died of pulmonary phthisis, and a younger sister had been for some time ill. Mlle. Melanie herself possessed a strong constitution, and was always in good health up to twenty-one years of age. About this period she was attacked with a dry cough, accompanied with pains in the chest and head-ache; she was not however, obliged to keep her bed till six months later. In January, 1841, she was affected with pleurisy of the right side, which confined her to her bed for three weeks, at the end of which time she got up imperfectly cured. Since then, she has constantly suffered in the right side of the chest; the menstrual flux at first diminished, has since become totally suppressed. In the month of July, 1841, I was called to attend her for the first time; she then presented all the signs of pleuritic effusion (constriction of respiration, dry and frequent cough, unnatural enlargement of the right side of the chest, dull sound on percussion, absence of the respiratory murmur at the base of the lun and ægophony). The patient had still considerable *embonpoint*; her countenance was ruddy and she was quite free from fever. The application of leeches to the upper part of the thighs and blisters to the diseased side, produced considerable improvement. The patient then objected to any further treatment, as she was able to keep about: but some weeks afterwards she was affected with a spitting of blood, which necessitated two bleedings at the arm. In a short time, the pains in the chest, the head, and stomach, became again very intense, when the family called in Dr. Vastel, who agreed with me as to the presence of a pleuritic effusion. A large seton was applied to the lower part of the chest. The patient, who had several times previously refused to submit to this operation, gave her consent with great difficulty; she laboured under great nervous irritation, which was augmented on the following days, and which I attributed to the circumstance of the seton having caused acute inflammation of the surrounding tissues, but unattended by suppuration.

Six days after the application of the seton, the patient who, for fifteen days previously had had no alvine evacuation, was as it were compelled to use a lavement, to which she had always hitherto objected, in spite of all solicitations. Some hours afterwards, Mlle. Melanie, who had never before been attacked with hysteria, experienced a fit of great violence, which lasted several hours. The next day, she took three drops of croton oil, which produced copious evacuations, and on the third day she felt relieved and asked for something to eat. A few hours after taking food, however, the hysteria reappeared with renewed violence, and on the succeeding days the patient had several fits every day, each attack lasting two or three hours; these paroxysms constantly occurred after her taking food, which she obstinately persisted in doing, notwithstanding all remonstrances. The seton, which had not suppurated, and which caused acute pain, was withdrawn eight days after its application, without, however, having any effect over the hysterical fits, which were generally proportioned in length and violence to the quantity of food taken by the patient. These attacks always began in the same manner: the patient after experiencing for some time greater pain in the chest and weight at the stomach than usual, began suddenly to scream out, and her body became bent backwards, as in opisthotonos, so as to form an arch, the extremities of which were constituted by the crown of the head and the soles of the feet resting on the bed; she remained for some minutes immoveable in this position. Then, unless restrained, she would throw herself off the bed on to the floor and roll about in agony, striking her chest and stomach with her hands, or knocking her head against the floor. Sometimes she dragged herself upon her knees and elbows round the chamber with great rapidity until her strength was completely exhausted. Then she became calm for a few minutes; but soon renewed her cries and convulsive movements, especially on hearing any unexpected noise, as the violent slamming of a door, the rolling of a drum, the barking of a dog, &c. Frequently when in her calm moments, the persons around her sang a hymn she knew by heart, she would join her voice with theirs, without appearing conscious of what she did, and then she would sing with greater sweetness than in her lucid moments. After thus singing, sometimes, for several hours, she would fall asleep, and on waking in her full faculties, would have no remembrance of what had happened. Six days after the appearance of the hysteria, the patient was suddenly struck dumb, and for three days was unable to articulate a single word, being obliged, in her lucid moments, to write down what she had to say to those about her. She recovered her speech on the fourth day, after a violent hysterical fit; then, after speaking a few words to the surprise of all present, she experienced another fit which lasted three hours, after which, she, for the first time, fell into a state of catalepsy, on the 30th of August, 1841.

From this period Mlle. Melanie had each day several attacks of catalepsy, alternating with hysteria, and which lasted about half an hour each. During these cataleptic attacks, there was complete insensibility of all parts of the body; the limbs easily assumed and preserved the positions, however fatiguing, which were given to them; the respiratory movements were imperceptible; the pulse was scarcely perceptible at the radial artery, and the contractions of the heart, which were very feeble, were from sixty to seventy in the minute. After some days, the cataleptic paroxysms became longer, lasting several hours each, but not without interruption; for every time the patient coughed, which frequently took place every ten or twelve minutes, she performed some respiratory movements; sometimes she turned her head from one side to the other, or else raised herself into the sitting posture,—at other times she jumped out of bed, stood at its extremity without opening her eyes, and balanced herself upon one or both legs,—or else she walked about the room, or placed herself upon some eminence, where she usually assumed some fatiguing though graceful posture. Her countenance had, during the whole cataleptic condition, an air of sweetness and satisfaction. She preserved these assumed attitudes until affected with a new paroxysm of cough, or until carried back to bed. Although her eyes were constantly closed, she never ran against any obstacle or injured herself. One day during a fit of coughing she jumped out of bed and flew towards a window, which she opened before any one could prevent her; but at the moment that she appeared about to leap outwards, the cough ceased, and the patient relapsed into a state of cataleptic immobility, with one foot placed outside the window and the other on the floor. She remained in this position until carried back to bed. The termination of each cataleptic attack was indicated by the respiration, which became gradually more free until the patient opened her eyes and recovered her intelligence. The return of the hysterical fit might also be foretold by watching the countenance of the patient, for the chin and lower lip were agitated by convulsive movements for some seconds, or even a minute before the commencement of each attack. After the cessation of the catalepsy, or hysteria, she recovered her full faculties and complained only of fatigue beyond her usual pains. Sometimes, during her suffering, she would regret not being in a state of catalepsy, during which she felt no pain. Frequently, during the lucid intermissions in the night, she would get up and work for several hours at her embroidery. Then, when all about her were asleep, she would take the keys and search the house for food, which she eat with avidity, although she knew that it rendered her attacks longer and more frequent.

For eight days, the usual attacks of hysteria almost entirely ceased, and were replaced by paroxysms of dyspnœa which lasted about half an hour each, and which appeared to be produced by the spasmodic contractions of the diaphragm. During these attacks, the patient breathed from eighty to an hundred, or even an hundred and twenty times in a minute,

which fatigued her much more than the other convulsive movements; the pulse ranged from sixty to seventy.

Five weeks after the commencement of the catalepsy, Mlle. Melanie had several attacks of natural somnambulism, getting out of bed without opening her eyes, walking about the room, arranging the furniture, &c., and entering into conversation or answering the questions addressed to her, even with more truth than in her waking state.

On the 12th of October, some days after the first attacks of somnambulism, I found, at my morning visit, Mlle. Melanie in the cataleptic state, and on placing my hand upon the epigastric region, I observed her face assume an expression of pain. I then applied my mouth to the pit of the stomach and addressed some questions to the patient which she answered correctly, to my great surprise; for although I had read of some cases of a similar kind, I had hitherto refused to believe them, thinking the authors were themselves deceived or wished to deceive others. During this visit which lasted an hour and a half, I made numerous and conclusive experiments which convinced me of the transposition of the five senses to the epigastrium. All the experiments which I made at this visit and the two following ones, with a view of ascertaining whether the palms of the hands or the soles of the feet possessed the same sensibility as the pit of the stomach, produced no result, and yet, two days afterwards, these regions became equally sensitive. In the evening of the same day, I renewed these experiments in the presence of several witnesses, who were equally astonished as myself. Lastly, I continued repeating them every day, and several times a day, for the space of two months, varying them in every possible form, and adopting every precaution to guard against deception, although from the character of the patient I could not suspect her of having any intention to impose on me. Here was the case of a religious young person, who, before her illness, had never heard of catalepsy or animal magnetism, and who, when the latter agent was spoken of as a likely means to cure her and its nature explained, had always called it *folly*.

In this cataleptic state, the muscles of the trunk and limbs presented three different conditions; sometimes they easily assumed and steadily preserved the positions given to them, however fatiguing or fanciful. This was the most frequent condition, and, in fact, the only one observed during the first month. When in this state the eyes were constantly closed, but could be opened by the operator. At other times the muscles were contracted with tetanic rigidity throughout the whole body, so that the strongest efforts failed in overcoming them. The eyes were then open and fixed, but could be readily closed. The tongue was protruded from the mouth, and was only withdrawn within the teeth on compressing the nostrils, so as to compel the patient to respire by the mouth. Lastly, in some conditions of the muscular system, the limbs would readily assume whatever position might be given them, but immediately on abandoning them, they became obedient to the laws of gravity.

Sensibility was totally absent in the integuments and subjacent parts, excepting at the pit of the stomach, the palms of the hands, and the soles of the feet. Thus the patient showed no signs of sensation on pinching or pricking the skin, on drawing the hair, titillating the nose, &c.; but if the before-excepted parts were touched even with the feathers of a quill, the patient immediately withdrew the part touched, and by her countenance evinced her displeasure. On applying the knob of a Leyden jar, charged with electricity, to the sensitive parts, the patient gave a violent jump, and sometimes instantly awoke; but she remained immoveable when the electricity was discharged upon any other part of the body.

The sense of hearing seemed perfectly absent at the ear itself, but on sounding a bell over one of the sensitive regions, her countenance indicated that she heard the noise. On speaking to her by placing the lips upon either of these parts, she heard what was said to her, although spoken in so low a voice that the words could not reach her ears. She answered all the questions addressed to her, but her voice was always so low, that it was necessary for a third party to apply his ear to the lips of the patient. It was not necessary for the patient to hear what was said, that the lips of the operator should be applied in immediate contact with the sensitive parts. I often made use of a long stick or rod of iron, placed as a conductor of sound between my mouth and the foot of the patient, who heard and answered my questions, although I spoke so low, that persons placed between me and the head of the patient, could not understand what I said. The answers which Mlle. Melanie made to the questions addressed to her in this condition were quite as *apropos*, or even more so, than she could have given if in her waking state, for her memory seemed to be better while in the cataleptic paroxysm. But when affected with the tetanic spasm, the tongue and other parts subservient to speech were unable to execute any movement; the patient said at the termination of the paroxysm, that although she had heard what was said, she was unable to give any answer.

The taste and smell were totally wanting in the organs by means of which they are usually exercised; but they were greatly developed in the sensitive regions. Thus substances of an intensely disagreeable or powerful flavour might be placed upon the tongue without producing any indication of her tasting them; and the nares might be filled with tobacco, assafœtida, the fumes of ammonia, &c., without inducing any effect. But on placing any of these substances upon the sensitive regions, the patient immediately perceived their flavour or odour, and her countenance indicated whether they were to her taste or not. She would also when questioned, name what the substance was thus submitted to her examination, and would answer whether it were good or bad. On applying some ammonia to the soles of her feet, she complained of its strong odour, which almost immediately made her cough, whilst she remained immoveable when some of the liquid was dropped on her leg, and even left so long as to produce vesication of the skin.

Although the results of my first experiments led me to believe that there was also in this case a transposition of vision as well as of the other senses, I afterwards became convinced that such was not the case, and that what I had at first considered as the effect of vision, was merely the result of an excessively developed sensibility of touch. On separating the eye-lids, and touching the globe of the eye, the patient attempted to close the lids, and if, whilst they were separated, a light was approached to the eye, the iris slightly contracted. Still nothing indicated that the patient saw what was around her, and the act of passing any instrument in front of the eye gave rise to no movement. During the tetanic spasm, the eye-lids and iris were perfectly immoveable. On placing any object upon one of the sensitive regions, and asking the patient whether she could see it, she answered in the affirmative, and almost invariably named the object, or else described it with sufficient accuracy. Thus she always recognised a watch when placed at the pit of the stomach, or in the hand; she invariably told whether the watch were of gold or silver, and whether it was going or was stopped. She could also tell pretty correctly the hour of the day as exhibited by the watch, but she was constantly deceived when the hands of the watch were deranged, so that they no longer corresponded to the true time. At the second sitting, she succeeded, after complaining for some time that it fatigued her to read, in spelling the word *commerce*, written in large letters, and placed upon the pit of the stomach; but in subsequent experiments she could never distinguish the letters of the alphabet written separately, and placed successively upon one of the sensitive regions. When asked how many persons were in her room, she always answered correctly, and would name those whom she knew; but she was often deceived when asked to point out the position and occupation of each of these individuals. Whenever I asked her if she could see the seat of her disease, or if she could inform me what was necessary to cure her, she answered in the negative, saying it was my affair, and not hers, and that I ought to know better than her, the nature of her disease.

Effects of Treatment.—Bleeding by the lancet, by leeches, and by cupping, frequently relieved the disease, allaying the cough, the pains in the chest, in the head, &c.; but the nervous symptoms were always rather augmented than diminished after the abstraction of blood. Flying blisters always allayed the cough and pains in the chest, so much so that probably the patient would have been cured had she been willing to have continued the use of them. Purgatives and emetics relieved the pains in the stomach whenever they were employed. After their action, the fits of hysteria and catalepsy were less frequent, as well as shorter; but the very intimation of employing a lavement was sufficient to throw her into a fit of hysteria. Antispasmodics and narcotics never produced any relief, even momentarily. These latter remedies were administered both by the mouth and by the endermic method. I endeavoured to magnetise the patient, and in the three first sittings I thought that I had succeeded in arresting the fits of hysteria by this means. She was put to sleep, and remained in this state for several hours each time; but in the succeeding sittings all my efforts were useless, and I was able to produce no effect. Electricity appeared to produce more favourable results, with regard to the nervous affection, than any other means employed. When the patient, being plunged in the cataleptic state held the two poles of an electrical machine in her hands, the shocks she experienced were much weaker than would have been felt in a state of health. Still these shocks were always sufficient to wake her after a few minutes; she then pushed the poles away and relapsed into a cataleptic state, when I recommenced the experiment, and after waking her thus several times, she would, in about half an hour, recover her full faculties. From the first day that the patient was thus treated by electricity, the fits of hysteria and catalepsy, especially the latter, became less frequent and shorter, and after about three weeks, she used sometimes to pass over the twenty-four hours without experiencing any paroxysm. In the month of December, she found herself well enough to go home to her parents, who lived twelve leagues beyond Caen. Still, the cough and pain in the chest were almost in the same state as six months previously.

Present Condition.—Mlle. Melanie, who has for the past three months been staying at her own home, and has refused to submit herself

to any treatment, is, I am informed, in almost the same condition as when she quitted Caen. She is constantly tormented with the same dry and frequent cough, with the pains in the right side of the chest, and the head ache. Her digestion is better, in consequence of her taking frequent exercise on horse-back and in a carriage. She preserves her *embonpoint* and fresh look. The attacks of hysteria and catalepsy are much less frequent; but any opposition offered to her, or any sudden emotion, instantly cause these fits to re-appear. She is especially subject to them at the period of menstruation, which, after having been suppressed for several months, has re-appeared, although in small quantity.

The above case, says the editor of the *Gaz. Medicale*, is exceedingly interesting under several points of view. 1st. The patient, although labouring for fifteen months under chronic pleurisy and dysmenorrhea, and finally amenorrhea, had preserved her colour and *embonpoint*. 2d. There appeared to be a constant connection between the state of the digestive tube and the nervous symptoms. These latter were constantly relieved by the employment of purgatives; and it was especially when the stomach was full that the fits of hysteria were most violent. The digestion appeared to be very weak, for on several occasions the patient vomited food taken forty-eight hours previously, and which had undergone scarcely any alteration. 3d. The cataleptic state ceased immediately that the cough awakened the pain in the right side of the chest, showing that the internal organs were not like the external, devoid of sensibility.

TO CORRESPONDENTS.

We are still receiving letters in shoals about the New Regulations. Our correspondents must be referred to the resolutions of the College, published among our advertisements last week, and to our observations thereupon. What kind, or what amount, of preliminary professional education the court of examiners require from gentlemen long in active practice, we know not—nor do they appear to know themselves—for they demand "what may *satisfy them;" i.e. we suppose, a something in the future not yet decided on, but which will probably rise or fall with the healthy state of the digestive organs of the examiners. If there be any absurd rigidity shewn in the requisition, the object of the change will be entirely defeated, and what was meant for a boon to a great body of country practitioners, and which we welcomed as tending to make more compact and united the great body of our profession, will prove but an unhandsome fraud, most injurious to the happiness of numbers whose hopes it only excited, to blast. Sir Benjamin Brodie, we somewhat fear, has out-generalled our friend Guthrie.*

Fulvus—Chiros—M. N.—Dr. W.—Mr. S. P. T. Argus—*declined.*

Several communications have been received.

Adscriptor *can recover for that portion of his attendance which he can prove to be medical.*

H. N. D.—*In a similar case, on an indictment for murder, the jury were directed "that if either of the prisoners sustained the principal by his advice or presence, or if they thought he went down for the purpose of encouraging the unlawful conflict, although he did not say or do anything, yet if he was present, and was assisting, &c., he will be guilty of the offence"—and the prisoners were found guilty.*

We had thought of publishing the report of the French Academy of Medicine on Orfila's experiments, but the lectures of the celebrated French chemist, (given in our last vol.) are so ample in their elucidations, that the addition now appears to us unnecessary.

Mr. Nottingham's sixth lecture on Operative Surgery—Mr. Smith's case of Spasmodic Stricture of the Urethra, and the observations of Veritus next week.

We shall commence next week the beginning of a series of about six papers on "the Diseases of Cotton Factories" by our esteemed contributor, Dr. Charles Clay, whose articles on the Extirpation of Diseased Ovaries, recently published in our journal, have excited such marked interest on the part of British and Continental surgeons.

THE MEDICAL TIMES.

SATURDAY, DECEMBER 17, 1842.

——— Give order that these bodies,
High on a stage be placed to the view,
And let me speak to the unknowing world
How these things came about.

SHAKSPEARE.

WE proceed, according to our promise of last week, to burn out that nest of disease—that lair of pestilence—the Tabernacle Grave Yard, Tottenham Court-road. Approximation, even mentally is so foul that we shall endeavour to make short work of it.

This stinking mass of putrefaction—this dead man's dunghill—ferments, and seethes, and pours out its steaming gases into one of the most crowded of metropolitan neighbourhoods, and alongside one of the most incessantly trodden of metropolitan highways. The vampire of the establishment is a Mr. Nash; a gentleman who, doing the honours with the zeal his polished namesake shewed for the waters of Bath, catered for this pet spot with a cleverness of diplomacy, which, though "man wants but little *there* below," early, very early secured for it more customers than it could supply packing place for, and, subsequently, called into exercise more mechanical ingenuity in the grave-diggers than was required to make the fortunes of an Arkwright—nay, more than has been required in the diggers of any other grave-yard in London, excepting only that, whose odorous exhalations, rising like the sweets of "incense breathing morn," supply an atmosphere and "ventilation" to the *immortal* inmates of Dr. Todd's "best possibly situated" of hospitals. We know not how this spot escaped notice in Mr. Walker's valuable book, and in the Report of the Parliamentary Committee — BUT YEARS AGO—*and several years, too*, as we are prepared to prove, it was saturated, *plugged* with human decomposition. But Mr. Nash is the *beau ideal* of pious and ingenious sextons. A charitable, religious, soul-saving man who never yet, in a case of real need, failed to help a brother who was in a position to help himself, he wrestled with nature and conquered seeming impossibilities in his Tobit-like FUROR of burying the dead. Though the ground was thus, as it were, unchangeably pre-occupied, no man can say that Mr. Nash turned back sorrowful the applicant for a grave, though he were the last of fifty in the day, for any imaginable reason, save one—*that he had not the money to pay for it*. But to be just to Mr. Nash we must be less general in our laudations, and we have one incident to mention, which, if taken, as it may be, as a sample of his general management, will do, in a few words, more justice to his high characteristics than an article as long and turgid with praises as a French *Oraison Funebre*.

Some short time ago, a Mr. Moreland, builder, in Old Street Road, St. Luke's, lost a female relative. A man of some acquired wealth, he seized the occasion of her death for the erection of a *family vault*, and the site chosen—we never dispute about the vagaries of rich men's tastes—was the Tabernacle grave-yard, Tottenham Court Road. The precise spot chosen, the grave-digger *began* his work. What was the *beginning?* There are railings separating the *dead* within, from the *living* population without. These, raised some time ago, not only allowed the gases to pass out, but the people to peep in. The railings were carefully blocked up—in the words of our informant, "boarded all over." But there were houses around—high houses, overlooking the yard, and though the inmates might on *ordinary* occasions be kept ignorant of what was going on, by the sexton---we beg pardon, the digger—using very late or very early hours; not so now, for the new grave was urgently required, and there could be no remission of toil. *A tarpauling scaffolding was, therefore, erected over the grave*, which "let the light in, but kept out eyes." Our readers, perhaps suppose, that in the hurry for the completed grave, Mr. Nash—or the chapel clerk, or minister, or Mr. Moreland himself had to aid in digging—and that these were delicate precautions to save them from observation in so unusual a position. Not so. The usual grave-digger did all the work, and what occurred while he did so, shewed, that there was a better reason for these expensive and troublesome preliminaries. The grave-digger threw out but a few shovelfulls of earth ere he came across some children's coffins. These were soon disposed of; they were crushed into a hole readily dug for them. Next came, at the head of the grave, a tier of six or seven coffins, fresh and solid—buried but a few months. The knife, the saw were used—the heads, the feet, were respectively severed—the different members forced into the narrowest hole that could be made to hold them. At the foot of the new grave, the heads of *two coffins* jutted in. How were these got rid of? The intruding portion was partly sawed, partly chopped away—the wood was thrown up, and the separated extremities, forced back into the remaining portion of the coffins. Far into the left side of the new tomb the thinner end of a coffin abutted. It was severed of course, and a woman's legs wrapped in lamb's wool stockings, perfect as at the moment of death, were exposed. The former, the customary course of treatment, was repeated. This is the briefly given history of *one* grave-making, in which the sickness — the half-asphyxia — the terminating beastly drunkenness of the digger — the liquid animal decomposition — the wheelbarrow loads of bones and old coffin wood, and a hundred similar circumstances are not even mentioned. But thus unexaggerated —thus curtailed—what is the history's impression on our readers? Do they see now

the reason for the *boarded* railings—the tarpauling scaffolding? Do they catch a better glimpse of what makes a good London sexton? And now what think they generally of the decent, the healthy, the enlightened system of metropolitan inhumation? If it disgusts much, it *depraves* more. But enough of this Tabernacle of unholies!

PENCILLINGS OF LIVING MEDICAL MEN.

ST. THOMAS'S HOSPITAL, MR. GREEN.

The savage rage to destroy the ancient monuments and cathedrals of England spared not many of our hospitals, the relics of the piety and benevolence of our forefathers. The endowed and noble institutions erected for the relief of the indigent and afflicted, participated in the general ruin. Their ample revenues invited the hand of heartless spoliation. Fortunately for humanity, St. Thomas's Hospital, which we are about to sketch, escaped: its history is calculated to cherish and keep alive that pure, exalted, and sacred spirit of charity for which this country has ever been distinguished. Egypt may boast of her pyramids, mighty monuments, of the skill and vanity of her children, with feelings of proud and sublime exaltation.—England can point to this glorious record and evidence of the early inherent, hereditary, and imperishable beneficence and goodness of her inhabitants. Knox said of the cathedrals: "the best way to prevent the rooks from returning is to destroy their nests." Dugdale relates instances in which his fanatic followers disregarded his vile instigations, and that even in the times of the Commonwealth, when all vestiges of the piety and benevolence of our ancestors were sought to be erased, that many of the humblest classes shrunk from laying their sacrilegious hands upon many endowed institutions. From some such feeling, as well as from the protection of the citizens of London, the property of St. Thomas's Hospital escaped state appropriation. The priors and canons of St. Olave, and Peter de la Roche, Bishop of Winchester, were its founders. He retained upon its dedication, a visitorial power, or guardianship, over this institution, and bestowed property to the value of £343—a sum which, if calculated according to the value of the time, was amply sufficient to render it capable of fulfilling the beneficent intentions of its founders.

With it was connected also the almonry, a house of hospitality, an asylum for the accommodation of poor wayfaring pilgrims. This was about the year 1200. The names of those who contributed to this glorious work of charity were lost in the general wreck and confusion of ecclesiastical property at the time of the reformation, which, in its zeal for principle, did not forget to possess itself of the property of the church.

The doctrine of the Church of Rome, which affirms that the practice of charity was essential to salvation, was instrumental in creating and supporting such institutions.

In the reign of Edward VI. a charter was granted to the corporation of London, giving it the entire disposal of the confiscated edifice of St. Thomas; it was dated 1551. The corporation, which paid a sum of money for it, added to its funds, which were impaired by the pious propounders of the reformation.

The officers who received salaries were—the chaplain, £10; the physicians and surgeons, each £15; the steward, £6; the butler, £6. The lord mayor and citizens nominated from themselves the requisite number of governors. It was destroyed by the fire of London. It was rebuilt by the liberality of the citizens, who, in the short space of three years, contributed thirty-seven thousand pounds for that purpose, Clayton, Guy, and Frederick, being the largest donors, whose generosity shed a lustre upon the land that gave them birth.

St. Thomas' Hospital consisted of two quadrangular red brick buildings. In the first stands the statue of Edward the VI.; in the second, that of its great benefactor Clayton. There are detached houses for the officers of the establishment, with a detached building for accidents. The part which faced the thoroughfare leading to London Bridge has been removed, and its site is occupied by two wings running north and south, which are of the most modern style of architecture; lofty, spacious, well ventilated, they are on a level with the new street, which is several feet above the new square. The staircases are stone, the whole structure grand and massive. The wards are double the height and width of the old buildings. The beds are farther apart, and the comforts of the patients, of the sisters, or attendants, are not sacrificed to taste or design. It is a credit to those to whom the administration of the hospital is entrusted, and when the whole plan is carried out, it will be a magnificent monument of the munificence of the citizens of London, with whom the flood gates of charity once opened, golden streams flow in from a thousand sources. The first idea is generally to administer relief to the suffering; little care or wisdom is bestowed on the management of these funds, and from this neglect all the "embosomed sores and headed evils," gross corporate, and private embezzlement, nepotism, favouritism, incapacity, intrigue, and various other mischiefs, proceed, that totally counteract the good intentions of the donors, injure much and endanger the happiness, comfort and safety of the patients. In many instances, the properties of the charity are prostituted to the worst of purposes, as proved by the investigation undertaken, but greatly to the dishonour of that erratic and eccentric nobleman, Lord Brougham, never completed. Situations are created with enormous salaries for the relatives, dependents, and friends of the governors, the offices of surgeons and physicians, whose competency is the least thing considered, are decided by ties of consanguinity, and affinity; all are, and have been, nice snug family or matrimonial arrangements. Sons and cousins, daughters, nephews, nieces, and the most distant ramifications of the genealogical tree are provided for, as will be seen in the history of the several individuals we are about to sketch, connected with the hospitals of Thomas and Guys. As may be expected, some of those introduced by these illegitimate means are clever men, others have not the slightest pretensions to the character. Talents and knowledge are not transmitted from father to son, they are personal, they are born and die with the individual.

The sons of the greatest men have been the greatest fools. It is natural that the son should inherit the property of the father. It is not just nor natural that he should usurp the privilege of experimentalizing and tampering with the lives of the poor. This system, by its workings, is not merely injurious to science and to deserving merit, but it is cruel, and even murderous in some instances, to that class of society which should have our sympathies, and which cannot befriend or protect themselves. In no hospital in London has nepotism been so offensively powerful as in Guy's and St. Thomas's. All the situations descend in lineal succession in two or three families, who have monopolized them for nearly a century. The exceptions are *rare*, and in favour of an occasional intruder whom aldermanic influence or champagne dinners have introduced.

The principal surgeon of St. Thomas's is Joseph Henry Green, F.R.S., Professor of Anatomy to the Royal Academy, &c. &c. He is the nephew of the celebrated Cline, and one of the Council of the College of Surgeons. He was associated with Sir Astley Cooper in his Lectures on Surgery and Anatomy, and took the place of Henry Cline, a promising young surgeon, who died in early life. He is of a very tall, commanding figure, being fully six feet in heighth; he is beginning, by years and the gout, to incline a little forwards from the perpendicular, and his clothes begin to hang rather loose upon him. His features are regular and pleasing in detail, and are expressive, in the aggregate, of intellectual power. His countenance is placid and amiable, slightly indented with the effects of small-pox; hair, light and sandy; chin, rather long and edentulous. On the whole, there is an ease, an elegance, a state of dignified repose, that harmonizes with the character of the finished gentleman and accomplished scholar, which is generally accorded him. He goes round the wards three times a-week. He is courteous to all, now and then, when not wrapped up in his reflections upon the inflections of Greek verbs, or in his dreamy idealities, or German metaphysical speculations, he is *communicative*. The mind, in him, is deeply fraught with classical literature; it seems to be interwoven with the very fibres of his understanding. The display of learning in him is natural and irresistible. It is not pedantry, or a desire to astonish by his acquirements. He thinks aloud in the dead languages.

The other day he ordered a man, who had injured his spine, to walk across the room. The patient complained he could not feel his feet; he made a quotation from Homer, describing him as "treading on air." One of the students *naively* asked another, if he would find a description of that disease in Cooper. Of the merits of this gentleman there are the most conflicting opinions. Some of his pupils contend that he is the first operator, the most eloquent professor, the most skilful surgeon in the metropolis, and

"They would draw
A faultless monster, which the world ne'er saw."

Others, less prepossessed, subtract too largely from these superlative panegyrics, and depreciate his merits overmuch.

We will recite his chief professional performances, so that every reader may place himself in the judgment-seat, and award the amount of claim he has upon his *brethren*.

In the session of 1821, he delivered the introductory to a course of lectures, in which his opinions recently expressed and advocated, are advanced with the same arguments, illustrations, and quotations, as in his pamphlet on medical reform. This lecture possesses all the freshness and integrity of an original thinker. It has none of the florid and figurative embellishments that detract from his more matured and polished productions. There are none of those narratorial interruptions of undisguised plagiarisms which mark the clumsy compilations of some of his cotemporaries. He thinks for himself in a healthy tone, and in a way peculiarly his own. His refinements are in the matter, not in the language of his discourse.

As a practical surgeon, we find that in 1827, he operated on forty cases of lithotomy, and lost only one. This success created a great sensation at the time, as it is unequalled in any country, and in any other person's hand.—Mr. Martineau, of Norwich, the most successful of all, out of eighty-four lost two. Mr. G. uniformly uses Cline's gorget.

In 1830 he was appointed to the professorship of surgery in King's College. At the commencement of his career, he suffered under a formality and mannerism which he could not shake off. On the opening of the session no man could be more eloquent in his address; his deportment simple, chaste, refined, dignified, and most successful in impressing his principles and points of practice on his class. It was much admired; it was delivered in a most masterly and effective style. It began with a lucid exposition of the connection and relation between the three great professions, law, physic, and divinity, the common root of which he proved to be science. The law, he contended, preceded the others, as, in its extended sense, it includes both the legislation and the administration of the laws. —He took an historical retrospect of the monarchy of Egypt, the priesthood, its practices, Moses, Hebrew laws of morality and Hygiene, the science of moral obligation, the Levites government of medicine; then a review of the laws of Minos, Solon, and Lycurgus, the Theodosian code, Christianity, its metaphysics and ethics, the scholastic age, separation of divinity and physic, the causes, the reformation—when astrology had faded away before the dawn of true astronomy, and the last dreams of alchymy, in the ascending light of chemistry,—Harvey and his discovery, Stahl, Boerhave, Hoffman's iatro-chemical school, how John Hunter laid the grounds of harmonizing the distinctions, shewing that life, or the principle of vitality, is the activity of function displayed through organization—that this vital principle is necessarily in order, antecedent to organization; and its essential condition; and how he placed the

seal on his great labours by including the human anatomy in the science of comparative or universal anatomy, and the lecturer concluded in a glowing and enthusiastic eulogium upon the merits and benefits to science of this truly great man, and on the pleasures, delights, and glories of ancient literature and its alumni, Oxford and Cambridge.

This was the most brilliant lecture he ever delivered. In 1831 he wrote a pamphlet called, "Distinction without Separation," addressed to the president of the College of Surgeons; the inference from which, we presume, is, that he means the distinctions between physicians and surgeons do not really exist, and that the present division is highly injurious. He defends the college, and denounces the general practitioner: and a little further on he declares the former must be reformed, and that the latter have just cause of complaint.

About this time he entered into a wordy warfare with the medical press about the publication of his lectures, in which he was severely handled and totally discomfited. He published a dissector's manual, which is never read.

In his evidence before the parliamentary committee, he declared the whole of the evils of the profession were in the student's education. He would make the council self-elective; although it has caused some dissatisfaction, he declared there was no ground for it. He does not approve of Concours. The distinction between surgeon and physician he considers highly beneficial. He is averse to the *representative* principle which governs every other associated body in the kingdom except ours. He gave no reasons for this opinion, and frequently contradicted himself. It is a tissue of nonsense, absurdity, illiberality, and illogical reasoning. In his "Touchstone of Medical Reform," he abolishes the Apothecaries' Hall. He gives the requirements necessary for a general practitioner. He pitches the standard very high; one of which, that he *must be a gentleman*,—and yet to this imaginary being, he denies the principle of self-government, and gives it to a class of beings called *pures*, on the principle of *lucus a non lucendo*, who are daily invading the boundaries of every branch of medicine, and pretend to practice surgery exclusively.

In a letter to the *Times*, 1834, headed "Suggestions respecting an Intended Plan of Medical Reform," full of strange, far-fetched, quaint language and fantastic distinctions, in which, here and there, are to be found a few grains of sense in a bushel of chaff; he enters into a long category of qualifications, and that the pupil should have a sound classical and mathematical education, in which we agree with him, as we hold that the member of a liberal profession should have a liberal education. He concludes with the monstrous proposition of higher and lower grades, under very long and unintelligible names.

His style through the pamphlets and suggestions, are fine specimens of the transcendental; he is radical now and then in his theory, but rigidly restricted and narrow-minded in his practice: his better judgment seems to be obfuscated by the gross atmosphere of selfishness in which he lives, moves and has his being. In 1840 he delivered the Hunterian oration. After a very extraordinary and allegorical exordium, he, in his own metaphysical way, endeavoured to explain the idea which occurred to John Hunter's mind. Preparatory to this, he entered into an elaborate elucidation of the metaphysical notions entertained by the deservedly celebrated Coleridge, his intimate friend and congenial spirit; whose wild and visionary—nay, poetical and subtle notions, are intended to subvert the Utilitarian speultaions, prevalent in the present day. He rendered it most enrapturingly mysterious and incomprehensible, by employing abstract metaphysical terms in a sense different rom their accepted significations, and by coining several new words, and by the profuse employment of metaphors, Greek and Latin quotations, praises of Coleman, Cline, and Cooper, and whole pages from the mysticism and periodical works of Coleridge, noumenon in contra-distinction to phenomenon, Coleridge's notions of church and state—this lecture he called on vital dynamics. He says truly, the forming of an hypothesis precedes the inductive process. In the aptitude to form theorems consists the force of what is called the inventive powers. Dalton possessed the faculty when he bodied forth the doctrine of definite proportions. The inventive genius of Faraday and Oerstad struck out the idea of a new dynamic principle: this lecture is published; we confess we derived neither pleasure nor instruction from its perusal. Common sense is overwhelmed with learned research, with the weight and length of words, with the number of quotations, with metaphors borrowed from Coleridge, with metaphysical speculations quite irrelative to the subject. He was obliged to write an appendix to interpret the lecture, and to deliver a recapitulatory lecture to explain the appendix.

His opening oration at the new school of Thomas, this session, was well attended. The style was more subdued and sensible than the Hunterian oration, more adapted to his audience. The science and art of the profession, its progress—astrology to astronomy, what empiricism is to medicine—their analogues—the intellectual chaos, and bewilderment of the one, yielding to the reflective rationale of the other: then a review of the Ptolemean with the Newtonian system—Kepler's anticipation of the sublime geometry of Newton, and here the lecturer careered in the clouds, and used the fact as an illustration of the perfection of art or science. Then electricity afforded him space to launch into its wonders, its mysteries. Amidst this learned rhapsody, there were noble views beautifully expressed. The orthoepy of his Greek quotations was music to our ears, accustomed to hear that fine language murdered by animals who try to make the world believe they understand, when they are ignorant of the accent, uses, power, and pronunciation of its alphabet. In this, as in all his discourses, we had the old sophism, *cum hoc propter hoc*. The anecdote of Louis XIV, and the quack, quotations from Bacon, were given, and it ended with an eloquent denunciation of all species of empiricism. It was much applauded.

When we reflect on his great opportunities, and contrast them with the little he has done to record its results, a singular contradiction arises, and a comparison with other men is the result. We are told he possesses genius—the essence of his own vital dynamics. We know he has had extensive practice—has he added to the boundaries of science or to operative surgery? His setons in hydrocele are not original. The test of genius he lays down, himself, is to create, to discover, to improve, what is already known.

He has great and extensive merits; they are, too, of the highest order,—they are not of a practical character. Yet he is a splendid surgeon and operator. We mean, he has not that great attribute that immortalizes the possessor, and draws the line between great genius and pre-eminent talent. His lore is profound,—his whole career a glory to his profession. Personal property has placed him above professional competition. He lives in Hadley, and is universally esteemed. He has troops of friends and admirers. With Horace, we pray, "*Ut serus in cœlum redeat.*"

PROBE.

THE MEDICAL CORONER.

To the Editor of the 'MEDICAL TIMES.'

SIR,—In your valuable and widely-circulated journal of November 12th, you have, under the heading of "*Cheapness of Medical Coroners*," clearly shewn to the hitherto-duped Profession what a very disinterested friend they have in the self-elected champion of Medical Reform. Your remarks at the above period were wonderfully *apropos*, but "coming events often cast their shadows before." Covetousness after this world's lucre seems to be, in some, more consuming and unquenchable than * * * In your Journal of December 10th, you have again reminded the Profession of their rights, by publishing some important clauses from the Act regulating the "payment of medical witnesses at Coroners' Inquests."—"The Coroner is empowered to summon on an inquest the legally-qualified practitioner who attended the deceased at his death, or during his last illness."—" Or, if deceased was not so attended, to summon any legally-qualified practitioner 'being in actual practice in or near the place where death happened.'" Now, Mr. Editor, is the Coroner guilty of any breach of the Act, if he, knowing the patient has been attended, till within two days of his death by a respectable man, summons another medical gentleman upon the inquest, who knows nothing of the case? Does such a plan of proceeding not necessarily incur a *post mortem*, and, consequently, unnecessary expense upon the county? Next week, if you will afford me space, I shall furnish you and the Profession with such facts as will open their eyes, if not hermetically sealed—facts that will arouse just indignation in the heart of every honourable member of society. I will further assist you in shewing the Profession how they are fleeced of their just rights, and their hard-earned character calumniated by our M.P., the IMMACULATE HYENA. A tale shall be brought to light, of which others, more deeply interested than the writer, seem unfortunately to be totally ignorant. I only wait to see what this week discloses!

Yours always,
NO GULL, TOM PEACHUM.

Dec 14th, 1842.

[If any charge be made against Mr. Wakley's discretion, or honesty in the discharge of his magisterial duties, our informant must communicate his name in confidence to us. The moral presumption may be very strong, in particular cases, of the truth of a correspondent's charges—but, where character is in question, we prefer to approach certainty as nearly as possible.—ED.]

REFLECTIONS ON THE "TRUE AND FALSE" STUDY OF BOTANY.

(From a Correspondent.)

A FEW remarks on the present mode of studying botany, and the cause of its being productive of so little real benefit may here be not uninteresting to the reader. Being in medical practice myself, and having paid great attention (as I still continue to do) to the delightfully agreeable and simple study of botany, and to the modes of advancing the utility of this science adopted by professors both at home and abroad, a few remarks on the ordinary, unprofitable, and what I consider the really beneficial mode of attempting to answer the sought for ends of this occupation will I hope not be considered as an attempt to deny the advantages of botany, but to change the ordinary mode of studying it, from what it is, i.e., that of drying, collecting, arranging and unarranging plants, to the really proper mode of considering plants in their natural relation to inanimate and animal matter, as beings that are placed between the two for the sole use of animals. Many persons, and some of good fame, have denied the utility of this study; and I must say, considering the number of years, and good men who have engaged in it, the results are comparatively nugatory. I must not be misunderstood here in saying that, the results have been nugatory: I mean to say that beyond the mere conveniences of reference and description, botany has been silent in its productions. The real utility of this science consists not in merely affording pleasure to those engaged in its pursuit, but by its ends affording results which can be advantageously applied to the comforts and happiness of human life. But advantages of this sort, notwithstanding the enormous accumulation of botanical knowledge, have never yet appeared: the important uses of many vegetables would never at this time have come to light, had it not been for what I may call "botanical quacks," i.e., persons studying the culture of vegetables in the same manner as quacks study medicine. Let us examine the occupations of the most eminent botanists, and also those of the most eminent farmers and gardeners (botanical quacks.) The former are almost exclusively engaged in compiling large ponderous volumes of the external characters of plants, sometimes but rarely diving into the interior; the foreign authors have, however, done considerably more than our home writers. Well, then, here we have men devoting their whole lives to the external characters of plants, arranging them, comparing their externals, collecting and preserving them. The farmers

and gardeners are occupied in just the reverse, leaving all structure both external and internal, they devote themselves entirely to the culture or growth of vegetables, all their facts being obtained by pure experience, and are not attempted to be explained. We have here no interveners, no men who are engaged in scientific investigations and on practice also. Has the knowledge of animal anatomy and physiology been thus advanced? Certainly not. No organs in animals (whose external characters are almost omitted in the study of these beings) are viewed without a consideration of their corresponding functions; but in the study of botany the functions are comparatively never considered. We can see and readily understand the use of four stomachs in a gramniverous animal, and of only one in the carnivora, but the use of the internal vegetable organs we are almost entirely ignorant of. All their varieties, and which we must suppose not to be without their use, are in a physiological view perfectly unknown. Has our knowledge of the functions and structure of the lower animals and ourselves been advanced solely or almost exclusively by the arrangement into artificial or natural systems? No! But to this point, nearly all our botanical labours are directed. In plants, as explained above, we have not the anatomist and physiologist at work together, but each separately and in his own way. Comparative or human anatomy is never considered (or rarely) apart from function. We have thus learned the use of various structures in performing functions, both relating to the constituents of the body itself and the surrounding influences and agencies to which it is exposed. Also by experiments we have been able to ascertain the effects exclusively of different atmospheres, diet, medical agents, &c., as well as such varieties of these means as will produce effects almost at our own disposal. Thus we can repress or increase the growth of certain parts, render the body exposable without injury to otherwise noxious agents, obviate their effects when taken, &c. But what real benefit (save convenience of reference or communication) could physiology or anatomy receive from the most complete or even perfect arrangement of animals. But this (in botany) is what is occupying, or rather wasting, the time of most of our scientific men. The gardeners and farmers laugh at them, and tell them they will produce fine crops of corn and vegetables without any of their "theory." The true use of botany, so as to be of utility to mankind, must be in a somewhat similar one to that which has advanced anatomy. We must leave the classifications, to devote time to find out the use of the different organs, their growth, &c. The "quack" botanist can and does continue to improve the culture of vegetables, so as to render those naturally poisonous, not only not injurious, but actually beneficial and conducive to health. How this is effected he knows not, nor does he care. The botanist should know the tissue in which the noxious principles are placed; and the sources whence they are derived, or at least the causes of their production. But does he? No. He knows nought but what the gardeners have found out by experience. As it is at present, botany is little else than sheer waste of time; and all the arrangements of plants according to what are called *natural or artificial systems*, must be looked upon as merely conveniences, whereas they now occupy the sole attention of botanists. Any person not wedded by vile prejudice to the ordinary views, must be aware that every year new plants are being found, which cannot be referred to any now existing "natural order," and, therefore, unless we had the characters of all the plants on the earth, we could not say whether any unknown one was poisonous or not. To distinguish a harmless from a poisonous plant has been considered as one use of botany to medical men; but the fallacy of such an use has been explained above. Moreover, the cases in which this could benefit, i.e., to people who are in unknown countries, or in those whose botany is unknown, are very rare. Whereas in the largest and most populous cities the selection of poisonous plants for medical use (and those too virulently so), is entrusted to the hands of a gardener or chemist, totally unacquainted with botany in any sense of the word. I hope these remarks will have a tendancy to the following ends:—

1. To persuade those botanists, who have time and means, to do as Liebig has commenced; (but which even with that celebrated philosopher will never answer its full ends, he not being a good botanist) viz., to connect plants with external influences, on the varieties of which we have reason to believe their properties solely depend.

2. To provide competent persons to select plants for medical use.

3. To employ botanical talent to other and more valuable ends than the drying and collecting plants, making natural orders one day and altering them the next.

4. To lay before the medical examiners the propriety of requiring of medical students some knowledge of sound philosophical botany; and leaving all the natural system humbug, which always has been, and always will be, varied by every author's whim and fancy.

I hope, and earnestly look to the time, for something like the advancement of real botany. The long continuance of the old method of examining the external characters merely, and thus judging of or totally neglecting the interior (on whose variations the exterior is totally dependant), has advanced nothing more than the mere making long lists and then altering them.

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[Exclusively compiled for the "MEDICAL TIMES," from French, Italian, and other Continental Periodicals.]

SCHOLLER, *Die Kuntsliche Frühgeburt, &c.*—On Artificial Premature Birth, effected by the Tampon. Berlin, 8vo.——KRAUSE, *Handbuch der Menschl Anatomie*—Manual of Human Anatomy. Hannover, Hahn. 8vo.——HENKE, Dr. A., *Zeitschrift für die Staatsarzneikunde.* Erlangen, 8vo.—Journal for State Medicine, pr. 1 Rthlr. 15 sgr.——*Cura Progediens. odor*—Cura Progediens, or an essential reform in the practical healing art, in respect to general medicine. Dusseldorf. 8vo. pr. 10 sgr.—MEYER, AHRENS—Historical notices upon the first appearance of Syphilis in Switzerland. Zurich, 8vo.——*Schweizerische Zeitschrift für Natur-und Heilkunde*—Swiss Journal for Physiology and Medicine. Zurich, 8vo.——MICHAEL, *Gedanken über die Cholera, &c.*—Reflections on the Cholera. Celle, 8vo. 20 sgr.——WIBMER, *Die Wirkung der Arzneimittel, &c.*—The Operation of Medicine and Poison in the bodies of healthy animals. Munchen, 8vo.——*Encyclopadieder Anatomie*, with explanatory text by Dr. Th. Richter. Leipzig, 4to.——KUFELAND'S *Journal der Pract Heilkunde.* Edit. Dr. Fr. Busse. Berlin, 1842—Journal of Practical Medicine, pr. 5 Rthlr. 20 sgr.—*Neue Zeitschrift für Gebürtskunde. DD. Busse, D'Outrepont, Ritger, and Siebold*—New Journal for Midwifery. Berlin, 8vo.——KUBENER, *Die Lehre von der Ansteckung, &c.*—The Doctrine of Contagion, with especial reference to Medical Police. Leipzig, 8vo.——*Arznei Taxe für das Königreich Bayern*—Medical Tax for the Kingdom of Bavaria, Wurtz. 8vo. pr. 11½ sgr. ALEXANDER, Dr. A., *Physiology der Menstruation.* Hamburg. p. 95.——Anthroplastie; or, the hitherto unknown Artificial Hands and Feet, from the MSS. of Professor Kluge, described and figured by Dr. H. E. Fritze. 26 lithograph plates.——WILDBERG, Dr., *Entwurfeines Codex Medico Forensis*—Draught of a Medico-Forensic Codex, composed for the practice of Forensic Medicine. Berlin, p. 64. ——RITZE, F. C., *Taschenbuch der Konigl. Preuss. Medicinal Gesetz für Apotheker*—Pocket-book of the Prussian Medical Laws for Apothecaries, p. 124.——*Magazin für die gesammt Heilkunde*—Magazine of United General Medicine, founded by Dr. J. N. Rust (Edit. Dr. W. Eck), Vol. 59, Berlin, 1842, with copperplate title-page and 3 lithographs (the 3d part). The contents of this part are—9. On the import of the feelings of the body in a healthy and diseased state, by Dr. Brach.—10. Hernia Diaphragmatis congenita, and an attempt to explain its manner of arising, by Dr. Scholler.—11 The saline bath, Elmen, near Salze, in the circle of Magdeburg, in the year 1840-1, by Dr. Lohmeier, Bath Physician of that place.—12. The Orthopœdic Institute of Paris, with especial reference to Orthopœdia in its present point of view.—13. Miscellaneous.

*** The German works above announced, may be had through Mr. Alexander Black, 8, Wellington-street, North.

PERISCOPE OF THE WEEK.

LOCAL TREATMENT OF CHANCRES BY SULPHATE OF COPPER AND CYANURET OF MERCURY.—Dr. Strohl recommends the sores to be dressed five or six times a day with charpie, which has been soaked in a solution of about a grain and a half of sulphate of copper, to an ounce of water. Simple chancres when thus treated, usually heal within twelve days. Dr. Strohl assures us that he cures complicated chancres in an equally short time with an ointment composed of two grains of cyanuret of mercury to an ounce of axunge. This ointment is spread upon a piece of linen corresponding to the size of the sore; it is apt to be painful at first, and must occasionally be removed after it has been on for an hour or two, and the remedy must be applied in a weaker form. When the chancre is extensive and painful, after the ointment has been on from four to ten hours, according to the sensibility of the patient, it is dressed with mercurial ointment, or opium cerate.

SUPERACETATE OF SODA IN THE WRAPPINGS OF A MUMMY.—On moistening, says Dr. H. Johnson, in the *Chemical Gazette*, a portion of mummy-cloth with distilled water and applying litmus paper, the latter became reddened, proving the presence of a free acid: the same effect was observed in several different portions of the material. I desired, therefore, to know what was the nature of the acid.—*a.* Some of the mummy-cloth was infused in cold distilled water; the liquor reddened litmus, and effervesced with bicarbonate of potass; evaporated to an extract and mixed with strong sulphuric acid, it yielded fumes which were recognised as *acetic pyroligneous acid* by the smell.—*b.* A portion of the liquor (*a.*) was distilled in glass vessels. A transparent, feebly-acid liquor came over, which, being free from the vegeto-animal matters dissolved by the water, seemed to afford the usual reactions of acetic acid.—It gave no precipitate with solution of acetate of lead, muriate of baryta, or nitrate of silver (except when concentrated, in which case it was crystalline),—The liquid remaining in the retort was more strongly acid than what came over in distillation; it contained much animal or vegetable matter, imparting to it a high colour. It was saturated with bicarbonate of potass and then evaporated to an extract; and on adding sulphuric acid, the pungent and characteristic vapours of acetic acid were distinctly perceived. The acid here present could therefore be none but the acetic.* On referring to Mr. Pettigrew's work (p. 76), I find that M. Rouelle obtained an acid liquor by distilling the bituminous matter contained in a mummy. He does not state what was the nature of this acid; and, it may be remarked, that as obtained by him, in the destructive distillation of these substances, the acid and oil which he describes as coming over were probably not contained in the materials of the mummy, but were *produced* in the process. They were *products*, not *educts*, of the distillation. Mr. Pettigrew (p. 62) conjectures that a considerable heat was employed in the making of mummies; and M.

* See Parnell's Elements of Chemical Analysis, pp. 46, 47.

Rouyer, whom he quotes, supposes that the bodies must have been put into stoves in order to bring about a union of the resinous and animal matters. What Mr. Pettigrew and M. Rouyer conjecture we may now, I think, positively assert:—1, because the mummy recently opened here (in Shrewsbury) by Mr. Birch had evidently been quite charred; and of this a piece of the bandage now before me affords visible and indubitable evidence; 2, the presence of acetic or pyroligneous acid in the wrappings is another proof of the fact. The charred state of the wrappings proves that after their application the body has been subjected to a heat equal at least to 300 deg. F. This temperature would decompose a part of the pitch and resinous substances, and produce a quantity of acetic or pyroligneous acid besides other matters, such as empyreumatic oil and creosote. The utility of this operation is quite obvious: it would not only cause the bitumen and resin to melt and combine with the animal matter of the corpse, but the abundant escape of pyroligneous acid, creosote, &c., and the impregnation of the whole mummy and its wrappings with this would greatly tend to preserve the body from decay. Hence it appears that mummies were prepared or "*cured*" much in the same way that Westphalia and other hams are at the present day; namely, by pyroligneous acid; and, as suggested by Mr. Cormack, by creosote.*—The peculiar yellow colour of the bandages I have no doubt is produced in the operation of "smoking" the mummy, and arises from the empyreumatic, oily, and some extractive matter dissolved by the acetic acid as it is evolved. The colouring matter is soluble in water and in alcohol, and seems therefore to resemble extractive matter of chemists. Solution of persulphate of iron deepens the colour but does not render it black; hence it cannot be astringent matter. Herodotus tells us the body of the mummy was covered with nitre of natron, *i. e.* native carbonate of soda. The truth of his statement is borne out by the crystals collected and analysed by Dr. Grenville, and the examination of a saline matter discovered by Dr. Ure. Saline particles were also discovered in the opening of the mummy here (in Shrewsbury), but unfortunately they have been lost.—If the account given by Herodotus be true, that the body was covered with carbonate of soda, and as I have endeavoured to show, acetic acid would be produced and given out in the process of embalming, the carbonate of soda would be converted into acetate, or from the excess of acid into the superacetate of soda; and that this has happened I have proved to my own satisfaction by the following experiments: Some of the wrappings were digested for an hour in distilled water. The liquor was evaporated to dryness. When much concentrated it was found decidedly acid. The solid extract weighing 7 grs., was heated to redness, and thus reduced to a white ash mixed with some charcoal. The ash effervesced with muriatic acid; it dissolved in water, and the solution rendered turmeric paper brown, and restored the blue of litmus reddened by an acid. Evaporated to dryness, it left a white crust, not deliquescent, but soluble in water. The solution exhaled bubbles of carbonic acid on the addition of a drop of pure muriatic acid; and this solution gave no precipitate with solution of muriate of platinum. It was, therefore, carbonate of soda, and no doubt some of the natron, which had been used in the preparation of this mummy more than 2000 years ago. It remains for others to verify these results by similar experiments on other mummies.

* According to Mr. J. R. Cormack (Treatise on Creosote, 1836), the only essential part of the mummifying process practised by the Egyptians was the application of such a heat as would dry up the body, and then decompose the tanny matters which had been previously introduced, and thus generate creosote.—Pereira, *Mat. Med.*, Part I. p. 227.

Observations on Copaiva Balsam.—Copaiva balsam, says, M. Vigne, is derived from Columbia, Brazil, Peru, Cayenne, and the Antilles. None appears to come from Mexico. The best is that imported from Maracaibo and St. Martha, which is packed in oak casks containing from 1 to 1½ cwt., in large bottles, or in cylindrical tin boxes. The boxes contain about 6 kilogrammes, are closed at both ends by flat soldered lids, and the one lid has an aperture in the centre, which is closed by a square piece of tin-plate soldered on. This mode of packing renders all adulterations very difficult (excepting naturally such additions as are made when it is collected, for instance chalk, to saturate the free acid,) but the balsam seems to change very much in these boxes. The author examined samples from 12 boxes obtained at the same time and from the same locality; but not one agreed with the other, not one was entirely soluble in alcohol, and smell, taste and consistence were different in all. In those boxes from which the balsam flowed out, *clear* crystals were deposited, which were obtained perfectly white by means of bibulous paper; but no such sediment was found in the opaque balsam; this did not clarify even on being left to stand, but when kept in a moderately warm place deposited a resinous substance quite distinct from the crystals. The clear balsam dissolved nearly wholly in alcohol, the opaque always less, sometimes scarcely at all. The most opaque and least soluble in alcohol did not even clarify on being treated with ammonia, while all the others formed with it a clear solution. The crystallized resin dissolved abundantly in hot alcohol, but separated almost entirely on cooling: the solution had an acid reaction; while, on the other hand, neither the balsam nor the resin which had separated from it possessed acid properties.—The author further examined 12 different samples from St. Martha, which had been imported in oak casks. They were likewise all different, although in general more transparent and thicker than the former. The following experiments were made with the best, perfectly transparent, amber yellow, aromatic smelling, samples of the consistence of turpentine.—With 1-20th *magnesia usta* it became in 24 hours like a thick gum slime; after 48 hours it was considerably thicker, and subsequently acquired a good pill consistence. It did not dissolve in an equal part of alcohol of 0.914, but afforded a milky mixture, which soon separated into two layers, of which the upper one contained but a little copaiva. Alcohol of 0.900 dissolved it in every proportion at 59 deg. F. A mixture of 2½ balsam and 1 ammonia soon became transparent, and might be heated to 212 deg Fahr. for half an hour without any change taking place. On boiling it with 50 times its weight of water the balsam lost half its weight in æthereal oil. With caustic potash it afforded a kind of emulsion, upon which the saponified balsam soon swam.—Only one of the other samples gave a good mass for pills with 1-20th magnesia; two became somewhat more consistent, but not sufficiently so; three became thick at first, but subsequently liquid again; and four did not change at all, but deposited the magnesia. The second sample afforded with ammonia a clear constant compound, with the two next the combination was less constant; the fifth and sixth only became clear after some time; the others remained opaque. Not one sample dissolved entirely in alcohol of sp. gr. 0.914; the more pure in every proportion in alcohol of 0.900; the last sample, even with this, separated into two layers. The loss in æthereal oil was about the same in all the samples, but the last lost 70 per cent. instead of 50. It is evident therefore that the power of dissolving in alcohol, of becoming consistent with magnesia, and of entering into a constant combination with ammonia, are nearly parallel; but these properties evidently depend on the amount of acid resin, and the thicker balsams therefore exhibit them in a greater degree.—The last sample, which had a very agreeable smell, and was very liquid, nearly colourless, perfectly transparent, and stated to be from Para, contained evidently more æthereal oil and less resin than the others, and on account of its imperfect solubility in alcohol was considered to have been adulterated with a fat oil; but the residue from the distillation was dry, and that was consequently out of the question. When kept for a long time in a badly stoppered bottle it became gradually coloured, and more soluble in ammonia and in alcohol, evidently from more of the oil being converted into resin.—The author further examined two samples of balsam from Para, which were considered to have been purposely adulterated with rancid oil of almonds. They dissolved well in alcohol, but combined badly with magnesia and ammonia. Direct experiments showed that pure copaiva balsam may be adulterated with 50 per cent. of a fat oil (nut oil, almond oil), without its ceasing to give a clear solution in 2 parts alcohol. Only after from 12 to 15 hours does the oil separate. Excess of alcohol separates the oil in all cases. It is evident therefore that under certain circumstances an unadulterated balsam may be insoluble or of difficult solution in alcohol; an adulterated one, on the contrary, may be soluble. The best test for detecting the fat oils would be alcohol to which some caustic potash has been added.

Anomalous Suppuration of the Cerebro-spinal Membranes.—Jacob Eichinger, a soldier in the 4th Light Infantry Regiment, had enjoyed good health during the seven years that he had been in the service. On the 17th of November, 1839 he was suddenly attacked with symptoms of gastric derangement, which increased on the following day, and compelled him to go to bed at about a quarter to twelve, a.m. He fell asleep, and awoke in an hour delirious. Convulsions soon supervened; the man became comatose, and, although the most active antiphlogistic treatment was had recourse to he died on the following day, November 19th, at half-past four in the morning. The body was examined on the 20th. The cranial bones were remarkably thin and the right side of the skull somewhat prominent. The whole of the superior surface of the cerebral hemispheres was covered with a layer of yellow fluid pus, and appeared somewhat flattened; no trace of the arachnoid could be found at this part. The pia mater was highly congested, and infiltrated with pus in its prolongations between the convolutions; the substance of the hemispheres was very much softened, and contained numerous points of blood when cut through; the lateral ventricles empty, and their walls softened in the highest degree; the pineal gland was very much enlarged, and did not contain any calcareous matter. The inferior surface of the cerebrum, and the whole of the cerebellum, were covered with pus, and extremely soft; the arachnoid here also appeared to have been destroyed; the base of the cranium was bathed in pus; no fluid in the third or fourth ventricles; the pineal gland much injected. The inner surface of the trachea was of a light red colour, but the bronchi were healthy. There

were some adhesions between the pleuræ, and the substance of the lungs was much congested, a few tubercles in the upper part of the left lung. The heart was very large, soft, and loaded with fat, but not diseased. In the abdominal cavity nothing worthy of notice was found. The bladder contained about half a pint of turbid urine. The fibrous membrane of the spinal marrow was much injected, and the cellular membrane particularly so; its whole surface, and especially opposite the cauda equina, was bathed in the same kind of purulent matter as the brain; there was no trace of the serous membrane, and the substance of the spinal marrow itself was converted into a thin, pultaceous matter.—This remarkable case is unique in the annals of medical science. Pathologists must decide whether the inflammation commenced in the arachnoid membrane, or extended to it from the softened nervous tissue, or whether both states were simultaneously produced by one and the same cause. But, however this may be, we cannot but be struck with surprise that such extensive softening of the cerebro-spinal nervous mass, and universal suppuration of its serous membrane, should have existed without the production of any symptoms to indicate such extensive disease. Particular inquiries were made in the regiment in which the man had served, and it was ascertained that during the seven previous years he had enjoyed excellent health, having continued to do his duty as a soldier without interruption. It was only two days before his decease, that gastric and convulsive symptoms made their appearance, and quickly terminated in coma and death.

The Taliocotian Operation Novelly Applied.—Miss A. T., at the age of five, was severely burnt. The result was an exceeding degree of deformity. The lady in describing her condition, says, "I have been unable to throw my head to my left side, or backwards, or to close my mouth for more than a few seconds at a time for twenty-three years. My right eye was drawn down some distance below the other, and when I endeavoured to turn my head it was entirely closed." Dr. Mutter, of Philadelphia, on examination, found in addition, the angles of the lower jaws altered and the incisor teeth nearly horizontal (as is seen in cases of chronic hypertrophy of the tongue) by the pressure of the tongue, which organ, in consequence of the inability of the patient to close the mouth, was always visible, and indeed, protruded when she was silent. The clavicle of the right side was so completely imbedded in the cicatrix, that it could scarcely be felt, and there was not any external indication of its location. The chin, from the shortness of the band, was drawn down to within one inch and a half of the top of the sternum, and the head consequently inclined very much. The space between the chin and sternum was filled up by the cicatrix, so that no depression existed in front of her neck. The ordinary operations in such a case not offering any chance of success, Dr. Mütter decided on practising a novel application of the process of Taliotius, which he accordingly executed on the 12th. January, 1841, assisted by Drs. Noble and Pierce. The steps of the operation were as follows; the patient being placed in a strong light, and seated on a low chair, her head was thrown back as far as possible, and sustained in this position by an assistant. The operator then, seating himself in front, began by making an incision which commenced on the outside of the cicatrix in the sound skin, and passed across the throat into sound skin on the opposite side; this penetrated merely through the integuments, and was made as near the centre of the cicatrix as possible. It was, therefore, about three quarters of an inch above the top of the sternum and of course in the most vital part of the neck. The object in making it so low was to get at the attachments of the sterno-cleido-mastoid muscles, which, in consequence of the long flexion of the head, were not more than three inches in length, and required on one side complete, and on the other partial, division before the head could be raised. The integuments having been thus divided, the cicatrix was next carefully dissected through, until the fascia superficialis colli was reached, and then the right sterno cleido-mastoid was exposed, and both its attachments divided on the director. The head could then be raised an inch or two, and when the sternal attachment of the left sterno-cleido-mastoid was divided, the head could at once be placed in its proper position, the clavicular attachment of the muscle offering little or no resistance. A wound, six inches in length by five and a half in width, was thus made, and yet there was scarcely any hæmorrhage, only three or four vessels requiring ligature. To fill up this immense chasm, an oval flap, six inches and a half in length by six in width, was dissected from the left shoulder, its attachment to the upper part of the neck being left intact. This dissection was painful, but not bloody, only one small vessel being opened. The flap, thus detached, was next brought round by making a half turn on its pedicle, placed in the gap it was destined to fill, and carefully attached by several twisted sutures to the edges of the wound. It was also supported by strips of plaster. The edges of the wound on the shoulder from which the flap had been removed, were next brought together by straps and sutures, and with the exception of its upper third, carefully covered in. A pledget of lint, moistened with warm water, was next laid upon this raw surface, a bandage applied by which the head was carried backwards and maintained in this position, and the patient put to bed. This very severe operation was borne with the greatest fortitude. Very little disturbance followed; no unfavourable symptom made its appearance, and union by the first intention took place throughout the entire wound, with the exception of one small point which united by granulation. The wound in the shoulder, except just over the acromion process, also healed kindly and the patient has been relieved of nearly all inconvenience. The angles of the lower jaw have, in consequence of the change in the condition of the throat, regained in a great measure their proper shape, and the lower incisor teeth have been straightened and one of them extracted by a dentist To support the neck after the incision had healed, the patient wore a stiff stock for a while by Dr. Mutter's directions, and this instrument served to press the integuments back, by which the natural excavation or depth of the neck in front was readily effected. The motions of the head are perfect.

Malignant Diseases of the Skin.—Dr. Byron, of the Meath Infirmary, gives a detail of his experience in the use of the chlorate of zinc as an escharotic. His paper refers chiefly to the treatment of lupus exodens, affecting the nose, eyelids and cheek. In the first case, that of a man, forty years of age, the lupus commenced about six years previously, and at the time of his admission, there was a superficial ulcer not apparently deeper than the cutis vera, occupying upwards of two thirds of the right under eyelid, extending from near the outer commissure along the tarsal border, which, with the cilia, was removed to the extent mentioned, leaving the globe of the eye and its conjunctiva exposed; the latter was thickened and drawn inwards, and the inferior margin of the ulcer was irregular, not materially thickened nor everted, but excavated, presenting much the appearance of herpes rodens, and its surface pencilled over with a thin pale gelatinous matter, which, though soft, was not easily removed. There was a painful sense of heat and itchiness in the ulcer, which, however, seldom amounted to absolute pain, but he suffered at times from pain in the head of a lancinating nature. His general appearance was indicative of disorder, and his spirits were depressed, but there were not any appreciable indications of physical disease, or functional disturbance.—The entire surface of the sore was touched with the chlorate of zinc, by which the sensations of heat, pain, &c., were in a great degree removed. The pain of the application was excessive, and the heat and redness caused by it continued for two days. When the inflammatory symptoms had subsided, the application was renewed, but only to the margins and foul parts of the ulcer, by which it was much cleaned, and healthy florid granulations induced. The chlorate was applied every third day to those parts only which presented a foul or unhealthy appearance, and never until the heat and redness consequent upon the preceding application had gone off, and at the end of a month cicatrisation was completed. The chlorate of zinc was used ten times. The rapidity with which the aspect of these ulcerations is improved under the use of the chlorate of zinc is, Dr. Byron considers, at once a proof of the efficacy of the remedy, and also the local character of the affection up to a certain period. What that period is, when all known remedies prove useless, remains to be ascertained. He uses the chlorate in the solid form, although it has hitherto been advised to be applied either in solution or in the form of a paste made with lime, flour, or some such substance, because—1st, it is at once, and in the full enjoyment of its escharotic powers, brought in immediate contact with the diseased surface; 2d, its reapplication is regulated by existing circumstances; and 3d, no parts are subjected to its use but those which seem to require it. Some precaution is necessary in the application of this powerful escharotic to the skin of the head and face in young subjects; for them it should be diluted by the admixture of from three to ten parts of water, and the pain, redness, &c., consequent on one application, should always be allowed to subside before it is reapplied, else a slough of the part will probably follow. The same precaution is not necessary to the same extent with persons advanced in life. The following are the inferences drawn from the cases detailed in Dr. Byron's communication.—1st. Malignant ulcer of the eyelid is, in its earlier stages, up to a period not yet defined, local, and admits of cure by local treatment only. 2nd. It is usually a disease of advanced life, but is not confined to any temperament or condition of life. 3rd. This malady is rarely found combined or coexistent with other affections; on the contrary, its presence seems to exempt from any such liability. The sympathetic affection of the stomach, bowels, bronchi, already referred to, forms an exception to this rule. 4th. Lupus, on the contrary, seems in most instances to have a constitutional origin, being as already shown, found to follow from or coexist with other affections or disordered conditions of the system, moreover, it is most effectually checked by constitutional, combined with local treatment. 5th. The difference, through well marked in several instances, between these two affections is infinitely less apparent than between either of them and cancer. 6th. The term "malignant" may be fairly questioned, as being applicable to the earlier stages of ulcers of the eyelids; but it is absurd and inappropriate

in the great majority, at least, of cases of lupus.

COMPONENTS OF THE BLOOD.—The blood contains twelve at least of the *simple* or *undecompounded* elements of matter, the oxygen, hydrogen, carbon, azote, sulphur, and phosphorus, being component parts of animal and vegetable fibrin, albumen and casein, are furnished for instance by meat, bread, eggs, milk, some vegetable juices, and bones.—Sodium and chlorine is derived from culinary salt,—also from eggs and water, most vegetable substances, as the carealea, potatoes, ginger, asparagus, milk, &c.; calcium from water, salt, and many animal and vegetable substances; potassium from milk, fish, and rice; and magnesium from salt, wheat-flour, barley-meal, &c.; silica and manganese which occur in some of the tissues, are introduced into the system with water, the cærealea, and even cucumbers. The only apparent exception is in the case of fluorine, which, according to Berzelius and other chemists, is a component part of the teeth. As an illustration, says Mr. Ancell, let us suppose a child to be fed for six months upon breast-milk alone; we know that iron is absolutely essential for the formation of blood. If the blood have not due proportion of that mineral, healthy nutrition and aeration cannot proceed; the only known source of iron in this instance is the mother's milk, and and according to Pfaff's clever analysis, it contains only a .007th part of the phospate, which, on a cursory view, would appear to be an inadequate quantity. But allowing 12 ounces of milk upon an average as the daily diet, a little more than 10 grains of phosphate of iron would be received into the alimentary canal with the food in six months. This is equivalent to about 5.8 grains of oxide of iron, which, again, is equivalent to about 4½ lbs. of blood. Suppose the child to increase 4 lbs in weight during the six months, and that a pound of this additional weight consists of a permanent increase of the quantity of blood in the system; for the formation of this one pound of blood not more than 1.2 grains of the oxide of iron is required; the remaining 4.6 grains contained in the milk may be deposited in the structures, or eliminated in the secretions or excretions. Iron being one of the most permanent and settled constituents of the blood, employed only in the most minute quantities in the nutrition of any of the tissues, and it being doubtful, whether it leaves the body at all after it forms a part of the blood; it appears to be clearly demonstrated that the quantity above indicated as a constituent of human milk is abundantly sufficient to answer all the purposes of the economy at this period of life.—But let us suppose that from any cause whatever the milk of a particular individual contained a much smaller proportion of iron than here represented—nay 1-10th part of this proportion. In such a case the child would receive from its mother barely enough iron in six months to form 7½ ounces of perfect blood, allowing nothing for waste, or for any portion of the metal which might be employed in the building up of the tissues; it is impossible to conceive that so small a proportion of iron would be consistent with health and progressive growth. Can it be said that the mother's milk is never deficient in its proportion of iron; of potassium; of phosphorus or other elements? Have diseases been referred to their proper causes, and have the most probable causes been yet investigated?

PUS AND MUCUS.—The mode of distinguishing pus from mucus, says Dr. J. Griffiths, has occupied the attention of so many authors, and so many pages have been devoted to its consideration, that any further observations at first sight appear unnecessary. In diseases of the chest, now that the physical examination of that cavity by auscultation and percussion renders us so certain of the disease within, assistance is rarely sought for from either the presence or absence of mucus or pus in the expectorated matter. My object here is to notice one or two of the proposed methods of distinguishing one from the other, and to attempt to show the true relation of pus to mucus. Pus when pure is composed of two kinds of globules floating or suspended in a liquid containing free albumen. The first of these globules are granular on the surface, and much larger than the second, and when acted upon by acetic acid the external part is dissolved, leaving nuclei, varying in number, undissolved; the smaller globules are smooth and transparent, and unaltered by acetic acid. Mucus is composed, as described by Mandl, of globules undistinguishable from pus, irregularly diffused through a viscid tenacious mass which appears itself composed of numerous very minute granules aggregated into amorphous masses, mixed with some very transparent small globules. The larger globules of mucus se m t me undoubtedly to vary in size according to the density of the medium in which they are contained: thus in the ordinary fluid mucus of the nose they are smaller and appear more granulated, whilst in the urine they are generally larger and less granulated, and of a paler colour, seeming as if distended with fluid. Mixed with the various globules in mucus we have abundance of epithelial scales and cells. The viscidity and tenacity of mucus, varying in intensity from the saline watery mucus secreted in acute bronchitis to the almost solid masses sometimes secreted in the latter stages of phthisis and calculous disease of the bladder, is very characteristic, and is worthy (in a diagnostic point of view) of much more attention than it ordinarily receives. It is never found in pus. The fluid part of mucus does not contain free albumen, but it exists in some unknown combination; its presence has been proved by electricity. That variety of morbid secretion termed muco-pus is composed of a large number of *pus globules* suspended in a mucous fluid; there is no true pus secreted in these cases, *i. e.* globules and an albuminous vehicle, but the genuine pus globules in the true mucus. The iron, whose presence in pus has been considered as characteristic, exists in the fluid of pus, not in the globules; therefore, it is not present in muco pus. I have often been surprised, in examining the expetorated "purulent" matter in the last stage of phthisis, where there is an enormous progressing ulcerating surface, and when we should expect a large quantity of true pus to be secreted, at not finding more than a trace of free albumen; although the pus globules were abundant. I believe that Gueterbock is perfectly correct in stating that free albumen is not secreted by mucous surfaces except they be ulcerated; therefore, that pus is not secreted unless under the same circumstances. Pus, when contained in urine, falls to the bottom, and forms a bran-like-layer, which by stirring is readilydiffused throughout the liquid, again subsiding by repose: the urine under these circumstances becomes albuminous.—Wherefore, when this sediment is examined by the microscope, the globules are found in great abundance. Mucus by repose falls also to the bottom of the vessel, but by stirring cannot be diffused through the urine like pus, but retains its peculiar viscid gelatinous appearance. When this sediment is examined by the microscope, the globules are few, and separated by the tenacious fluid. The test proposed by Dr. Young to distinguish pus from mucus shews the fallacy of detecting any one constituent of pus. As is well known, he proposed producing the coloured rings, by placing the suspected matter between two glass plates, and holding it near the eye, and between it and a candle. These rings are, however, readily seen in muco pus when the globules only are present. The recognition of pus by the detection of its fatty matter, as proposed by French authors, would also be equally fallacious.

EFFECTS OF REMEDIES ON THE GENITAL ORGANS.—Cases have been recently published, tending to show that the local use of tartar-emetic or croton oil as counter-irritants *may* produce a curious effect on the genital organs. Dr. Boas has observed an analogous effect produce by assafœtida plaster, which he is much in the habit of employing. In men, tumefaction of the scrotum often occurred; in women, tumefaction and even inflammation of the external labia. In one case, that of a woman fifty years of age, where the plaster had been applied on the abdomen, very troublesome inflammation of the external organs of generation, requiring an antiphlogistic treatment, supervened, and the mammæ became greatly enlarged, and furnished a milky secretion in considerable quantity.

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By J. N. ASHWOOD, Surgeon, North Molton.

I WAS attending Mr. E. B., æt. 48, for a febrile attack from getting wet and remaining some time in his wet clothes. He was nearly recovered, but yet in bed, when he mentioned to me a hydrocele which commenced nearly two years before, in consequence, as he said, of a slight blow on the left testis, received in descending from the top of a stage coach, and which, till then, he had concealed from motives of false delicacy. He then only mentioned it as it had, from its size and weight, become troublesome; he complained of some pain in the spermatic cord, and a little soreness and redness of the integuments of the scrotum. I examined it carefully, and found it to be a true hydrocele about eight inches in circumference, and without any apparent disease of the testes. I ordered an evaporating lotion, containing a fourth part of sp. vin rect.; this relieved the pain and soreness in two or three days. One morning, on visiting him, he complained of much painful smarting and soreness of the scrotum; on examination I found the whole surface of its integuments much inflamed and covered with small blisters, as though a blister had been applied and taken off before it had produced its full effects; but, to my surprise and the delight of the patient, the hydrocele was manifestly, and upon its being measured, considerably lessened. I then examined the lotion, which I found, through an error of my assistant, to be entirely rectified spirit. The lotion was at first applied when in bed by means of a single fold of linen, but he had the day before got up and dressed, and used it, being dressed, with several folds of linen,—so that evaporation could not take place, and inflammation was the consequence. I continued the application in its accidental form for a day or two, when he could bear its application no longer; the scrotum was then covered with strips of linen spread with cerat. cetac. until it was healed. The whole of the fluid became absorbed in eight or ten days. The disease has never returned. I had fully determined to operate.

Not long after this I was consulted by a gentlemen about the same age as the former, for the same disease, to whom I proposed the operation; he, however, resolutely refused to submit to any operation. I then mentioned and explained the above case to him, but without holding out to him any confident hope of cure from the treatment; he consented to its employment. It was completely successful, but not in so short a time as the former, as the external inflammation was not so violent.

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SUMMARY.

ST. THOMAS'S HOSPITAL.

IMPORTANT CASE OF MOLLITIES OSSIUM.

On Friday evening, Dec 16th, a conversazione was held at St. Thomas's Hospital, when Mr. Samuel Solly communicated the details of a remarkable case of *mollities ossium*, which he illustrated by some drawings and microscopic preparations. Dr. Hodgkin also communicated some original observations regarding the extent and relative position of the thoracic and abdominal viscera in health and disease; the details of which had been communicated to him by Mr. Francis Sibson.

The assembly took place in the large hall of the hospital, which was brilliantly lighted up for the occasion, and there were present not less, we should think, than five hundred persons.

Mr. Samuel Solly, in opening the proceedings, said: Gentlemen, in appearing before you this evening I confess I feel some difficulty in having to address two classes of auditors; for, in addition to the presence of many of the most eminent members of the medical profession, we are favoured with the company of many of those whom it is an honour to see among us, and whom I am proud to see gracing assemblies of this kind with their presence, because it shows that they take an interest in the scientific cultivation of medicine and surgery; not merely, of course, in this school, but all over the world. We know that learned societies flourish not merely by the influence and talent of its superintending members, but by the combination of science with wealth; and we hope, therefore, that the combination of wealthy members in institutions of this kind for the propagation of medical science throughout the globe,—for we know that institutions of this kind are mostly supported by the wealthy part of the community,—I say, I hope therefore, that those who are not practicing the profession will come among us and take an interest in our pursuits and our objects, and will feel the delight that we feel in doing all that may be necessary to communicate all the good that is within our means of bestowment. I say, it is in consequence of my having to address two classes of auditors that I feel some difficulty as to the manner in which I shall address you. If I do not explain myself in language more becoming the theatre of a medical school, and, instead, make use of what may appear trite terms, you must excuse me, inasmuch as I am not addressing simply a medical audience.

The skeleton, it must be known to all intelligent and thinking minds, affords one of the best proofs of a designing and benevolent Providence, and the *bones* of which it is composed are so hard and so firm, that the medical student when he commences his profession hardly looks on it as a part of the living being, and those who have not studied physiology, and know nothing of the science, cannot comprehend that the bones are endowed with anything like a living principle; but those who have studied physiology and the laws of the animal economy, know that they are as much under the influence of vitality as the soft skin that protects them by its sensibility, and which moves so beautifully to every motion of the body. The vital properties of the bones exhibit to the surgeon many wonderful characteristics; he sees that they are under the influences of disease, and also that they are as much endowed with sensibility as the nerves, and the muscles and the other tissues of the body. Many diseases affect them. Scrofula holds not its power from them; the poison which invades the muscular, and especially the pulmonary tissues, also extends itself to the bones. When the bone dies, and is no longer a means of support, nature builds a beautiful protection out of the materials left. Now the sympathetic cyst—which is itself no more than as a small globular particle—possesses the properties of an animal, is capable of reproducing its species: this deposits its seeds in the bones, and thus breaks up the osseous system.

Of all diseases that affect the osseous system, none is more extraordinary, and none more interesting, from its variety, than the *mollities ossium*. The term implies a mere softening of the bone from various causes. It is produced by carcinomatous tubercles in the deposit, allowing it to break easily. In childhood before the calcareous matter has been deposited, they are soft and pliable,—so that, when the deposit takes place, you have that dreadful deformity of the person known under the title of *rickets;* this arises rather from the want of the deposit of calcareous matter than any positive disease. It is true that some physiologists and excellent surgeons have considered that rickets is a disease; Garand, a French physician, brought forward nine facts to establish that it is a disease. Rickets is not a disease which in itself causes the destruction of life; but it is a disease which causes rickets,—namely, the disturbance of the alimentary canal, one of the great causes of the want of a proper assimilation of the food with the blood. It will cause the death of the child; but, supposing the general system to be repaired by the assistance of a medical man, the child may grow up to be an adult, and the deformity will remain. There is a case in a French work in which every portion of the skeleton, the upper and lower extremities, the vertebral column, and the skull, were diseased in like manner; but the disease may be repaired, though the recovery from it be accompanied with deformity. As far as we know at present of the disease, regarding *mollities ossium*, we know that it is a disease *sui generis*—not dependant on any disturbance of the viscera generally; but it is a disease of the cause of which we are ignorant at present, and it is much better to confess our ignorance on subjects of this kind, because we are stimulated to go on in our endeavours to find out the real cause.

The case which has induced me to come before you to night is a case of great interest, and one for the details of which I am indebted to my kind friend Dr. Conolly, and Dr. Davey, of Hanwell Lunatic Asylum, Mr. Dutton, of York-street, Manchester-square, Mr. Temple, and others. I only saw the patient after death. I was present at the *post mortem* examination, at which I assisted, and I made some sections of the bone, made some drawings, and I have followed out the case since and got the particulars. The poor creature, as she laid on a table after death, was so distorted as hardly to present the appearance of a human being.

[We give the report of the case kindly sent to us by Dr. J. G. Davey, of Hanwell Asylum, as being ampler and more precise than that suited to the general audience addressed by Mr. Solly.—Ed.]

C. S. a female, æt. 33, was admitted into this institution in April last. She was much emaciated and enfeebled, and unable, either to walk, or even support herself erect. When not in the recumbent position, she sat on her haunches, supporting herself by her superior extremities, of which she retained a very efficient use. The general deformity of the *skeleton*, induced me to regard the case as one of protracted *rickets*. The bodily health appeared good, the several functions being duly performed; there were no hectic symptoms, or cough, or tumidity of the abdomen, which constitute the ordinary accompaniments of disease of this kind. The history obtained by me from her mother, a very intelligent woman, some months after her admission, is to the effect that in 1837, whilst walking along King William-street, City, she fell, and received a heavy blow on the right knee. The accident confined her to her bed for a period of four months. Before the occurrence of this circumstance she had enjoyed excellent health, but subsequently to it she became very delicate. Her conduct too was characterized by suspicion, and so restless and irritable was her general demeanour, that her friends and relations feared the approach of insanity. All this time, however, she continued to conduct her school, with her habitual precision and care. Her suspicion and timidity at length so much increased that she could hardly be induced to move from room to room. On one occasion, when under the influence of these feelings, she secreted herself in some damp place or other, and thus was attacked (so her mother has assured me) with a severe rheumatic fever, which lasted for six weeks. During the progress of this disease, she made very especial complaint of strange sensations, and occasionally severe pains over the whole head, but more particularly the back part. The cerebral functions too were much disturbed throughout; so soon as symptoms of approaching recovery were manifested, violent *mania* set in, during which she succeeded in inflicting a wound in her throat. After a time the symptoms of insanity moderated, and for the space of fourteen months succeeding the attack, she remained very improperly at home with her family; sometimes better, at other times worse. She was now removed to St. Luke's Hospital, and in a short time was very much better. Her health was *generally* restored, that of the brain as well as the other organs. She became robust. Unfortunately, however, this amendment proved but a too flattering hope of a permanent cure. An attack of epilepsy or hysteria—so it would appear from report—to which I am informed a loss of power of the lower extre-

mities quickly succeeded, proved the precursor of her dissolution. The return of the catamenia which had attended on her improved health, now became suspended. The eyes were observed to grow, as it were from their sockets, and the whole head to increase in size. She was received here from the Islington Infirmary. After admission into the Hanwell Asylum, the deformity of the skeleton abovementioned, (and which was on the whole, of the ordinary character of "*rickets*") went on increasing. The head became larger, the dorsal spine more curved, the sternum more prominent, the lateral parietes of the chest more flattened, the extremities more bent and hoisted, and the articulations more expanded, (particularly those of the phalanges). The appetite continued very good, and the secretions healthy. With the exception of sedative medicines to relieve the severe pains she referred to her bones, she took only a single aperient pill since my knowledge of her. I may add, two grains of morphia (muriate) or a drachm of the sedative liquor of opium produced but slight narcotic effects, such was the severity of her sufferings. The treatment in addition to opiates to relieve pain and procure sleep, consisted in the daily administration of wine, with a generous diet, together with the use of an air bed. Softly padded and small cushions too were recommended by Dr. Conolly with much relief. They were placed in any position likely to relieve particular pressure of parts. She gradually sank, and died on the 28th of October of the present year. I had almost forgotten to state that two or three weeks before her decease, the existence of spontaneous fractures was accidentally discovered.

Autopsy.—The examination detected as many as six spontaneous fractures; viz., two of the left femur, one of the right femur, one of the left clavicle, (nature had made some ineffectual attempts at re-union in this instance) one of the left humerus, and another of the right radius. The viscera of the thorax, abdomen, and pelvis, were *quite healthy*, not a vestige of disease could either be discovered in the brain or membranes. The petrous portion of the temporal bone, on the left side was slightly enlarged. The medullary canals of the long bones one and all, contained a substance, which both in colour and consistence resembled *black currant jelly*. The cancellous substance of all the osseous system with the exception to be specified, was apparently converted into this peculiar morbid product, or, at any rate, the one took the place of the other. The same change was evidently in progress with the outer, or compact structure of the bones. The articulating extremities of the long bones, as the tibia, femur, humerus and those of the fore-arm, were excessively vascular and very much softened; so much so, as to retain very perfectly, even an inconsiderable pressure of the fingers. A section of the upper part of the femur, including the head of the bone, presented an appearance differing only to that which is natural to it, in the greater number and larger size of the cellular spaces, and from which it may be presumed the phosphate of lime &c., had been removed by absorption. A very similar appearance, somewhat modified, was presented by a section of the calvareum which was of immense thickness, measuring in several places seventeen lines in diameter (English). It could be easily cut through with a knife. By exposing the shaft of either the femur or humerus, and embracing it between the finger and thumb, the compact substance easily yielded to the pressure, so very thin was it, and imparted the sensation of breaking a soft shelled walnut.

My friend, Mr. Solly, of St. Thomas's Hospital, who happened to be present, intends, I believe, to furnish the profession with the result of an analysis both *chemical* and *microscopical* of the peculiar substance abovementioned.

Remarks.—Even supposing that pathologists were agreed respecting the precise nature of disease, of the kind I have narrated; nevertheless, I should consider that the unfrequency of such cases as that of C. S., would excuse the publication of the present one. In the note, Mr. Editor, which prefaces the observations I have submitted to you, I have designated the case one of *mollities ossium*, you will, however, perceive that I have affixed a *query* to the term. I should be glad to learn of any one of your numerous and talented correspondents in what consists the difference, not *nominal* but *virtual*, between rachitis, fragilitas ossium, and mollities ossium. Are they not I would enquire, mere *words*, signifying but varieties of the same disease? I may be told, that the first is confined to childhood. That such is the generally received opinion is most true. Yet are we not without authority to show that such an opinion is ill founded.* Mr. Cooper in his surgical dictionary, quotes a case by Morand (Acad. des Sciences, 1753) "in which an *adult* became affected" with this disease. And we learn too from the same author) that the late Mr. Wilson was agreed with Boyer and Richerand in believing rickets and mollities ossium to be "one and the same." The interesting case of "*mollities ossium*" recorded by the late Mr. Gooch, and given in the article of that name in Mr. Cooper's surgical dictionary was preceeded by a remarkable fragility of the bones. A circumstance, which, when taken in connexion with the fact that "in almost all the cases on record, the fragilitas and mollities have been combined," leaves little room to doubt their identity. In the case of C. S., nothing could be more striking than this combination. The shaft of the long bones were in a state of fragility, the articulating extremities of the same bones being softened; I am strongly disposed to think that independently of any *chemical* changes, so to speak, in the osseous system, whereby the relative proportion of earthy and animal matter is lost, giving rise to an excess of one or other of the essential elements of bone and constituting thereby either a pure softening of its texture, in which it becomes completely FLEXIBLE, and loses all its natural firmness, the effect ONLY of a deficiency of lime, and *without other morbid changes*; or an increased hardness, or brittleness, the mere consequence, as above explained, of the loss of balance of the organized and calcareous structures, in which the latter preponderates, as is seen in old persons, and whereby they are rendered more liable to *fracture*,—cases which are *without other organic change* than that now detailed. I say, that independently of such changes, and which, perhaps, we do well to recognize by the general and certainly more expressive terms of mollities and fragilitas ossium; I believe there is a peculiar and specific disease of bone, the real nature of which is at present misunderstood, and which in its accession, progress, and termination, presents certain *physical* characters, from which alone all our ideas of it have been conceived, and hence the employment of the terms in use; and such a disease it will be readily seen, I presume, is realised, in the case which I have reported. To recur, however, to the *question*—if such it be—of rickets, fragilitas, and mollities ossium, I would beg leave to draw the attention of the reader to the appearances observed after death. In Mr. Gooch's case before-mentioned, it was observed, that "all the bones, except the teeth, were softened, so that scarcely any of them could resist the knife; but those of the lower extremities were most dissolved, being changed into a *kind of pulpy mass* [illegible] *red liver, with an* [illegible] so completely, indeed, were they decomposed, that the knife met with less resistance in cutting through them, than in sound muscular flesh, though some bony laminæ were here and there to be met with, but as *thin as an egg shell*. The most compact bones, and those which contained the greatest quantity of marrow were the most dissolved; and it was observable, that the dissolution began internally; for the bony laminæ remained here and there on the outside, and nowhere else." Boyer gives the following description of *ricketty bones*.† They are lighter than natural, and of a *red or brown* colour. They are penetrated by many enlarged blood vessels, being porous, and, as it were, spongy, soft, and compressible. They are moistened by a sanies, which may be pressed out of their texture, as out of a sponge, or rather a macerated hide after it has been tanned." No description more correct could be given of the appearances presented by a section of the skull in C. S.'s case. "*The walls of the medullary cylinder of the great bones of the extremities are very thin, while the bones of the skull are considerably increased in thickness, and become spongy and reticular.* All the affected bones, especially the long ones acquire a remarkable suppleness, *but if they are bent beyond a certain point they break, &c.* Instead of being filled with medulla, the medullary cavity of the long bones contains only *a reddish serum*, totally devoid of the fat, oily nature of the other secretion in the natural state." These words of Boyer apply with great force to C. S. In her case, if the long bones were "bent beyond a certain point" they broke. I tried the experiment. Mr. Stanley has found the interior of ricketty bones occupied with "*a brownish gelatinous substance*." If in ricketts the bones retain their *natural* INFLEXIBILITY, which they do not in mollities ossium, but may be at once bent in any direction, then was the case of C. S. *not* of this kind, but rather one of "*Rachitis*." The pathological changes above quoted from Gooch and Boyer respectively, if contrasted, will go far to shew that these authorities have here described the same disease, with different names *only*. Dr. Cumin says, "As the disease (rickets) proceeds, *the bones are readily fractured* whenever a slight force is applied, and it is remarked that, *softened* as they are, they usually re-unite; at length they become completely suppliant."

It is usual to regard rheumatism as a cause of mollities ossium; undoubted cases of this disease are, however, on record, in which no such cause appears. The severe pains which mark the accession and progress of this very peculiar morbid action in the bones, it is very likely are often erroneously considered as rheumatic,—though, in the instance above recorded, it appears probable that C. S. did suffer a severe attack of rheumatism, inasmuch, as for a long period subsequent to that which is mentioned as such, she was without pain, &c.; and, before this, I could learn of no particulars to enable me to trace the origin of the disease to so early a period.

I shall now, said Mr. Solly, continuing his observations, refer to a few other extraordinary cases. M. Jupé was born in 1817. Her case bore great resemblance in the general details to the case I have related to you; but she lived longer under the influence of the softening of the bones, and, therefore, there was a distortion of the limbs. Her posterior extremities were actually drawn over her head, and her arms were bent and twisted, as you would twist a simple piece of string. The case of a male individual came under the care of Mr. Thompson, of the London Hospital; this individual lived to the age of thirty-three. A case also occurred in 1776, and many other cases are recorded; but the case most detailed is that recorded by Mr. Howship, and another is detailed by Mr. Curling in the medico-chirurgical transactions. In the case related by Mr. Howship the disease lasted six years, during which time the patient had the benefit of the sea air; and Mr. Howship says, "I feel convinced, had the patient remained eighteen months at the sea side, she would have returned home perfectly cured." About twenty

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* "The softening of the bones, which is met with in persons of adult or advanced age, presents itself in various degrees of severity. Sometimes it is merely a [illegible], which has continued with numerous checks and interruptions, and successive revivals and increase of symptoms [illegible] *advanced life*."—*Cumin*.

The same writer mentions too a case of "*mollities ossium*" in a child four years old.

† The late Dr. Cumin in the the article "*mollities ossium*," (Cyclop. of Practical Med.) describes the appearances on inspection after death, *in this disease*, as precisely similar to those regarded by Boyer, as *characteristic of Rachitis*.

cases are on record, and it is curious that in all these cases the *post mortem* appearances present an extraordinary resemblance one to another; the larger bones contained a thick red liver-coloured matter, except in cases where the individual's life was cut short by a violent attack of bronchitis, then the bones contained matter of a jelatinous character and a pale brown colour. This is very interesting, as the patients' lives were cut short in the early stage of the disease. All these cases were accompanied more or less with rheumatic pains, and in the early stages with more or less of a deposit in the urine of a cretaceous character; as the disease advanced, and the bones became softened, then the urine became clear. With regard to the probable causes of the disease, I confess, at present, we really are as much in the dark about them as we ever were; rheumatism has been referred to as the cause. There are pains which naturally attend such a disorganization as is occasioned by this disease, and these pains have been regarded in the light of an acute rheumatic attack, rather than that rheumatism has preceded the invasion of the disease. For instance, in the case I have just related, the unfortunate individual at the age of eighteen, fell down and fractured her collar-bone, but it was not until after that, that she had an acute attack of rheumatism; therefore, there must have been some other cause of disease existing before, and the rheumatism afterwards. The disease I have been describing spares neither sex nor age. It is not limited to the female, though there are some curious cases of the softening of the pelvis, and in these cases, the softening is limited to the bones of the pelvis, and not extending further; but we find it occuring also in the male subject. It does not occur merely in infancy as rickets,—nor is it limited to children; but it affects adults. The case related by Mr. Curling occurred at the age of seventy one, and there is a preparation of this disease in the Anatomical Museum, taken from a woman at the age of eighty. With regard to the appearance of the viscera generally, they are healthy; sometimes the liver is found enlarged, but the lungs and the alimentary canal are found in a perfect state of health. Some writers have set it down as an established fact that it is the result of gout. There appears some connection between this disease and scurvy, for in many cases the gums have separated from the teeth. I hope any one who has an opportunity of examining cases of this kind will take care to examine, so as to be able to detect any alteration of the causes of scurvy and purpurea. Mr. Curling thinks it is merely a case of atrophy of the bones, and not a peculiar disease, that the matter in the canals of the bones is merely the fatty matter of the bones stained with blood. This disease is not limited to the human being, but it has been found in animals. Mr. Spooner, of the Veterinary College, informed me himself that he had sent to him several hounds from the kennel of Lord Milton; of these, first one dog was attacked, and then the whole progeny; it went through one portion of the kennel to the other. Now in this state of doubt and dilemma I began to think at one time that we had found something like an explanation of the cause; for sections of the bones of this individual were placed under the microscope by an exceedingly intelligent gentleman, who has had great experience in the use of that instrument, and he found, on examining portions of the bones, some particles of matter, which he believed to be worms. These were examined carefully, and they were supposed to be worms. I therefore examined the matter very carefully, and I repeated the examination of those bones with some men who are in the habit of looking through the microscope, and I found that the supposed worms were little filaments separated from the bones, and the conclusion we came to was, that they were not worms, but extraneous matter forced into the sections by the cutting knife, because the cleaner we cut the sections there was less appearance of worms, and at last, by the greatest care, not a portion of the supposed worms could be seen in the section. We made twenty sections, one after the other, most carefully, and not a single worm nor animal could be distinguished. The fact is a curious and interesting one, in connection with the study of the microscope. You should at all times be very careful in all microscopic observations. I have now completed all that I have to communicate on this interesting case. I trust you will excuse me if I have been rather brief, and take the will for the deed.

Dr. Hodgkin then communicated to the meeting a very interesting paper on some peculiarities of the thoracic and abdominal viscera, which we shall give next week.

PRIVATE COURSE OF OPERATIVE SURGERY.

By J. NOTTINGHAM, Esq., Member of the Royal College of Surgeons of London.

LECTURE VI.

We now proceed to treat of the means employed by surgeons for closing divided arteries, and in the next place to speak of the precautions to be observed for preventing hemorrhage from wounds after the latter are closed.

Where small arterial branches alone are cut across as in the wounds of the superficial parts of the body, they may often be left to themselves with impunity, for the divided twigs of artery cease to bleed, as soon as they have become a little retracted, and the immediate effect of the stimulus which a cutting instrument may have produced, has abated in the affected part.

Sometimes, however, a bleeding from small arterial branches of this kind has continued longer than we desire or approve of. If the mouths of such vessels can be seen, they may be seized with a tenaculum or dissecting forceps, and then secured by ligature in the ordinary way; if not, the part whence the arterial blood issues may be seized with forceps broader at the point, and a torsion effected of all that is thus laid hold of; in this way the bleeding may generally be arrested. Sometimes the mere squeezing of the parts with the fingers is sufficient to answer the purpose, or the forceps may be employed in the same way, squeezing the parts, and thus breaking more or less the internal membrane of the arterial branches, without attempting any torsion of them, for the breaking or lacerating of the inner coat of the arteries helps the formation and the after tranquillity of the internal clot, by the settling of which further bleeding is prevented; or it may be requisite to apply the ligature to the artery or arteries, along with neighbouring tissues, when the vessels cannot be detected and isolated.

In the larger operations, such as amputation of the limbs, removal of the breast, &c., various modes of securing the divided arteries have been adopted at different times, and in the recent progress of surgery, these have become more numerous than useful; we shall not however in this elementary course attempt to name, much less to describe many surgical curiosities of this nature; they have been more numerous on the European continent than in these countries; but here, as every where else, the greatest masters of the art have generally contented theselves with the simplest methods of operating; to such of this kind, therefore, as are generally adopted by the most distinguished surgeons of the present day, the remarks we now make will be chiefly confined.

In the old-fashioned or circular amputation, there is, perhaps, less difficulty in effectually securing the arteries than in the flap operation, so often performed of late, for in the former operation, where the arteries are evenly cut across perpendicular to their course, the end once being seized with the forceps or tenaculum, there is no difficulty with regard to the application of the ligature, nor is there, generally speaking, any fear for the complete security of the vessel so tied; not so, however, in the flap operation—here the catlin does not cross the limb, but is slanted through it, if the expression may be allowed, the vessels are divided obliquely, and present frequently long spoon-like mouths on the exposed surface of the flap, the ligature must be applied with care fairly above the highest point of the section, and generally in this way the bleeding for the time is arrested. It may happen, however, that a small arterial branch arises from the trunk a little above the point where the ligature is applied, which in some cases will be divided near to its origin from the main vessel, and this latter being secured below by ligature, admits afterwards of hæmorrhage occurring from the unsecured twig as soon as a little reaction takes place in the system of the patient, so that the possibility of such an accident should put us on our guard, lest by overlooking a divided arterial branch, such as we now allude to, an after bleeding should occur, always troublesome, and a source of the greatest anxiety to the surgeon, at the same time dangerous to the patient, and besides all this, frequently giving to him more pain in opening the stump (already sensitive and sore) than that which the previous operation produced.

In seizing an artery about to be tied, it may be transfixed at its divided extremity with the tenaculum, and then drawn out—or with the forceps, one point being inside its calibre, the vessel may be pulled forth by pinching one side in the forceps, or without being so particular or so artistic as this, we may be contented with the plan which most surgeons adopt, of laying hold of the end of the vessel with the point of the instrument, caring merely to isolate it completely, and at the same time to get good hold, for in this way the application of the ligature is easily made secure, as we place it far enough on the end of the vessel brought forth to prevent it slipping off afterwards, and thus all the purposes of its application are attained.

In most cases the vessel may be separated from the parts to which it more or less adheres so as to enable us to tie it without including an accompanying vein or nervous filament; it may, however, sometimes be better to allow a little cellular tissue or muscular fibre to enter within the loop of the ligature, than to run any risk by an over-nice dissection of injuring the coats of the artery before the thread is applied to it.

Ligatures should be examined as to their strength before their employment by the surgeon. Common hempen thread is no doubt the best material, its thickness must depend on the size of the vessel to be tied, for the femoral artery for example; a good ligature is that kind of shop-thread, now so commonly employed for tying small parcels, &c., and, if waxed, the making and closing of the noose is somewhat facilitated; one end of the ligature may be cut off, the other allowed to hang from the lower end of the wound. Some surgeons prefer cutting off both ends of the ligature close to the knot; others like to employ ligatures made of animal substances, thinking that after they had acted as ligatures (of course not before) they would be absorbed, and that the constitution of the part would have mercy upon them, and not treat them as foreign bodies. I may be allowed an egotistic shortening of these remarks, by saying, that if I were a patient, I would have no such refinements practised on me.

In applying the dressings, as in cases of amputation of the leg for example, it is better to adapt all the straps of plaister employed in uniting the sides of the wound, and then gathering the ends of ligature together, let them be fixed over the plaister by a separate strap of the same material, for thus left, they come at once into the view of the surgeon at the time of the first dressing, and may be treated in such a careful manner, that their at-

tached extremity will not be disturbed, as occasionally happens in cases where at the time of the first dressing they are applied to the skin, and have the plaister stuck over them.

We now come to consider whether any considerable interval of time should elapse between the application of the ligatures and the closure of the wound, or whether immediately after the securing of the blood-vessels, the sides of the wound should be brought together: and here we may call to mind the issue of two cases of operation for cancer of the breast, treated one in one of the ways mentioned, the other in the other. In the first case, I allowed the parts to remain exposed for a time after the ablation of the diseased mass, subsequently, straps of sticking-plaister were applied in the ordinary way; in this case we had no secondary hæmorrhage: in the second case, the edges of the wound were approximated immediately after the removal of the tumour; there were some peculiar reasons for this practice connected with the then state of the patient, hysterical fainting, &c., making it desirable that we should put her quietly to bed as soon as possible; in this instance secondary hæmorrhage followed, and without taking up more time by extending the comparison or the contrast of the cases, we may be allowed to add, that it is at least probable that the secondary hæmorrhage in the last case might not have occurred, had the exposure after the operation been resorted to, and the edges of the wound only brought together, when an hour or two had elapsed after the time of its performance.

The remarks on this subject on the "*Clinique chirurgical*" of Dupuytren deserve to be remembered, for he always allowed one or more hours to pass after the performance of any of the greater and cutting operations before the wound was definitively closed. His practice is spoken of in the following manner:—"The patient is put to bed immediately after the ligature of the blood-vessels, nothing being now applied save a compress, lightly supported by a few turns of a roller; the following reasons are assigned for M. Dupuytren's practice."

It frequently happens, despite all the cares of the operator to tie most precisely every vessel whence a jet of blood or oozing comes forth, of whatever calibre the vessel may be, that shortly after the operation consecutive hæmorrhage occurs, always injurious to the patient, and obliging the practitioner to remove every part of the dressings applied. In no case can we be certain beforehand that such an accident may not occur: and supposing the dressings to be applied, the bleeding might not be discovered until they had become steeped, more or less with blood; in other words, when the hæmorrhage would already have produced very deleterious effects on the system of the patient. Of this occurrence M. Dupuytren gives the following explanation:—In some cases there are arteries which although not tied, do not send forth any blood; their extremities are not observed on the surface of the stump, retracted and hidden in the surrounding structures, they do not allow the escape of any blood. In such cases it is in vain to wait for a few minutes merely, for no hæmorrhage will appear; but allow one or two hours to pass, or in some instances a much less time, and the irritation will attract the circulating fluids to the part, and secondary bleeding will show itself. This absence of the flow of blood at the time of the operation often depends upon the deep moral impression which the idea of it has produced on the patient, or on spasmodic actions, more or less violent, from which he has suffered during its performance. Some patients there are who faint from fear, or at the sight of blood flowing over the cutting instruments; two or three hours afterwards, secondary hæmorrhage not unfrequently occurs in such cases, this being produced by the greater afflux of blood to the part, and by a dilatation of the vessels, which at first did not appear: or such hæmorrhage may, in some instances, be accounted for by some imperfection in the mode of applying the ligature. Since M. Dupuytren has taken the precautions now alluded to, there has not been a single case of secondary hæmorrhage in any patient operated on by him at the *Hotel Dieu*. In the interval between the operation and the dressing, an intelligent assistant watches by the patient, provided with all that is required for the temporary suppression of any hæmorrhage that might occur.

Although the practice of M. Dupuytren be not generally adopted, and many surgeons continue to close and dress the stump in cases of amputation immediately after the blood-vessels are secured to their satisfaction, we cannot quit these considerations without expressing our admiration for the practice here recommended, calculated as it is to ward off a most disagreeable duty, which the surgeon is now and then called upon to perform; for imagine yourself sent for in the middle of the night to a patient who is said to be bleeding, who has, perhaps, had his leg amputated the day before at noon, frightened, and fainting—friends alarmed, and paralysed by their fears; the faces of the bystanders pale, their hands helpless—you find the bandages distended and soaked with blood; you undo the roller, and remove the straps of plaister, finding the stitches on the stretch, or perhaps burst open, and the flaps bulged apart by the huge clot between them, which must now be removed; the patient screaming with pain under this operation of tearing the adhering fibrin from the inner surface of the raw flaps, whose sensibility is already much heightened by the irritation which the first operation has set up: with the light, perhaps, of a few candles which only serve to make darkness visible; after tearing away (for this is the fittest expression) the coagula which clung to the hollow of the stump, you must grope with the tenaculum or forceps for the vessels where the blood is supposed to come: perhaps no such bleeding vessels will be found, for if we may be allowed so to speak, it often appears that they have bled as much as they choose to bleed, and here is an end of the matter as far they are concerned. Groping with the tenaculum or forceps, is an expression which may be here allowed, for in reality, even had we good light we cannot see our way on these occasions, when some vestiges of coagula will more or less mask the face of the stump, and hide the mouths of the vessels, which are seen with comparative facility soon after the knife has passed through them, or before they are concealed by bloody deposit, and all this will now and then happen, if we do not take those precautions which are recommended for the preventing of secondary hæmorrhage; but all I think must be agreed respecting the horrible nature of the accident above described, and of the importance which ought to be attached to those rules of practice which will often enable us to avoid such occurrences, not less distressing to the surgeon than they are dangerous to the patient.

When the patient is removed from the operation table and placed on his bed, there is no reason why the atmospheric air should not reach the surface of the divided parts during an hour or two after the operation, and when subsequently the dressings have been applied, cold water may be employed upon and around them, more especially if we have to deal with very irritable subjects: if much excitement be likely to follow the operation, or the hæmorrhagic tendency, be greater than usual, the employment of opium, digitalis or preparations of lead internally, or the application of local styptics, powders of kino or dried fungi, and other such like matters externally, if noticed in detail would carry these observations far beyond the limits assigned to them, we shall, therefore, leave this department of our subject, and betake ourselves to that which seems most naturally to follow it, and as we have already spoken of incisions, and of the bleeding which follows their formation, we now proceed to treat of

REUNION,

Or the closure of wounds after hæmorrhage, from their surface, has been arrested. In union by the first intention, the sides of the wound which the surgeon has brought together, are united more or less firmly by a process of vital agglutination, within a few hours from the time of its infliction, the separated portions of divided skin in such cases being fitted to one another time is not required for the formation of new cuticle.

In union by the second intention, a wound must fill up by granulation from the bottom and sides during this time the superficial part of the wound is observed to contract; and, lastly, the new integument of the scar going from all parts of the borders of the wounds ultimately unites itself in the middle to finish the process.

After a great number of surgical operations, we endeavour to obtain union by the first intention. After a few, however, union by the second is sought for, the applications of either mode of union will be explained as we proceed.

In cases of wound inflicted by accident, coagula and foreign bodies must be removed and bleeding arrested, the part placed in as easy and relaxed a position as possible, occasionally lacerated portions of integument or deeper structure taken away, and then the sides of the wound approximated, never allowing any uneasiness from tension in this approximation. In many such cases it is useless to hope for union by the first intention, so that if the aspect of the wound be such as to warrant our supposing that this is not possible, the treatment must be directed to the favouring and shortening of the granulating process, applications being made which tend to keep the parts clean, and to regulate their temperature, and these being changed as often as circumstances require. One extremity of the solution of continuity should be placed, if possible, lower than the other, to favour the exit of discharge, and thus prevent an injurious accumulation of it between the sides of the wound.

It is to be hoped that the vigorous and valuable remarks of Mr. Liston on the abominations of the poultice system, and all the filth attending it, will have the effect of bringing its application within a much narrower sphere than it has of late years enjoyed, for surgeons once being convinced that warmith and moisture are all that is useful in poultices of the ordinary kind, will no longer seek on every occasion to bedaub a wounded part with boiled bread or linseed meal, when by lint, steeped in water of a proper temperature, applied to the part, and the covered with a little oiled silk, the state of moisture and warmth can be maintained, and cleanliness duly preserved.

The constitution of the patient, the organization of the part, and the nature of the injury inflicted, must be attended to even in the choice of our local applications; heat or cold, stimulants, sedatives, or anodynes, all within our reach, being taken advantage of as circumstances may require; these considerations, however, can hardly be said to belong to our subject.

In the every day practice of surgery, we see two kinds of suture employed, which might be called the simple, and the compound or complicated—simple, when thread alone is used as the uniting medium—compound when any addition is made to this—as in cases where hare-lip-pins are passed through the lips of the wound, and the thread in figure of 8 turns twisted over them, or where pieces of quill or bougie are laid along the border of each lip of the wound, and double ligatures tied over them, so as to approximate the deeper parts of the solution of continuity by thus drawing the two quills towards one another.

The simple or interrupted suture, answers well in a great number of cases, a single or double thread, according to circumstances, being passed from without inwards with regard to one side of the wound,—from within outwards on the other. In passing the needle, the parts of the wound should first be evenly put together, made to fit well, but not with the employment of any considerable force, if they do not approximate with ease, it is more than probable that union by the first intention will not take place, and that we had better look forward to a granulating process than be disappointed about the others. While the edges of the wound are approximated, and in neat contact, the surgeon may thrust his needle through both lips of the wound at once and with facility: this is better than the plan of introducing the needle with the lips of the wound apart, first taking one portion of the integument, and then the other; for in this way, unless great care be taken, we shall not obtain that even junction with the sutures which is

insured by adopting the former method. In most cases we may pass a suture through the middle of the wound first, afterwards those towards the extremities may be introduced; the principal exceptions to this plan are in those cases where the free border of a part has been wounded, either by accident, or by operation, as in the lip, or eyelid, here the free margin had better be neatly united first by the suture, which is to be passed near to it, the other sutures, if more be required, being introduced afterwards. The degree of hold taken by the sutures must depend upon the size of the lips of the wound, and upon the apparent chance of immediate union by the first intention, for if the wound be large, a little more hold must be taken, and if it would seem that union by the first intention is doubtful, this is also a reason for giving to the threads such hold of the part as will enable them to continue their office a little longer without ulcerating more than might otherwise have been required.

Needles that are straight in three-quarters of their length, and only a little curved towards the point, in most cases answer our purpose very well. In uniting the flaps after amputations, straight needles, ground prismatic, or trocar-shaped towards the point, sometimes called glovers' needles, pierce the integument with facility; and in such cases, where the curve is not wanted, are, perhaps, the best. In passing sutures through the lips of a wound, in any concave region, such as the neighbourhood of the angle of the jaw, the axilla, or perineum, the old-fashioned curved, or almost semicircular surgical needle, may be employed with advantage.

With regard to the complicated sutures, we may remark that the hare-lip pins are more especially useful where there is any considerable drag upon the sides of the wound, either on account of position, and the weight of neighbouring parts, or from the tension, and consequent tendency to separation, which antagonizing muscles produce. This latter remark, having more particular reference to the lips, the hare-lip pins should be long and small, and of some material that may be cut easily at the extremities, after introduction—such as silver, or steel not too much hardened: the pins with moveable points, belong to the ingenious complications of by-gone surgery.

After the operation for hare-lip, the blood which oozes from the part into the thread which is twisted over the pins, glues the thread in a mass over the wound, and forms an additional bond of union for a time—which I have found in many cases adhered very well after the pins were withdrawn, provided the latter be taken out in a careful manner, so as not to disturb the adhesion of the thread to the lip. It is not easy to fix any time for the withdrawing of the hare-lip pins, but our attention should be frequently directed to the state of the part, from the end of the second until the end of the fourth day—provided we have not extracted them before the latter period—by which time the union likely to take place, will generally have been effected. It is always desirable to prevent sutures having any chance to come away by ulceration; and this is more especially the case with regard to hare-lip pins. I have known this accident to occur from over-anxiety on the part of the surgeon to get a complete union before the pins were withdrawn. In this way, transverse scars were added to the perpendicular one, producing a corrugated and disagreeable appearance on the lip. As there is nothing in the quilled suture particularly worthy of notice, saving the couple of compresses which it gives to the wound, we need not dwell either upon its peculiarities or application.

In the dressing of wounds generally, I would recommend not much bandaging, still less plaistering. The isinglass plaister of Mr. Liston (made by Messrs. Fisher and Toller, Conduit-street, and Bell, Oxford-street,) being much less irritating than the ordinary sticking-plaisters, should be generally preferred to them in cases where calico bandage, or other uniting medium, is at the same time employed; this remark having reference to the fact, that, unassisted, it might in some cases, be too weak as a single means of union.

The lower or depending extremity of the wound through which the collected ligatures may hang on cases where arteries have been tied, should not be closely plaistered like the parts above it, but allowed to give exit to any discharge that may flow by the side of the threads it contains. After amputations, I have lately not carried the roller over the end of the stump, leaving the parts in such a state, that the progress they make may be more or less observed through the transparent isinglass plaister. With regard to the mode of tying, or knotting ligatures, either in applying them to arteries, or in closing the interrupted suture, the common double noose, reversing the ends of the ligature in the second half, appears to me to answer every useful purpose, to this, of course, an additional knot would be in no way prejudicial.

PRACTICAL OBSERVATIONS ON THE NATURE, PECULIARITIES, AND TREATMENT, OF SOME OF THE MOST PREVALENT DISEASES, &c. CONNECTED WITH THE POPULATION OF NORTH CHESHIRE, AND SOUTH LANCASHIRE, EMPLOYED IN COTTON FACTORIES.

By Charles Clay, Member of the Royal College of Physicians, London, College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence and Medical Police, Manchester.

In recording the following observations on some of the diseases most prevalent to that part of the community employed in cotton factories, particularly in a widely extended manufacturing district, with their peculiarities, and mode of treatment required under such circumstances, I shall be obliged to pursue the enquiry at considerable length, as some parts of the subject will naturally include circumstances connected with the locality, as situation, temperature, occupation, habits of life, food, clothing, &c.

The subject, though an extensive one, will be much more limited than if I had included the peculiarities of disease, &c., connected with other extensive occupations in the same locality, (as I intended originally to do.) In selecting the operatives of the cotton factory department, for the illustration of my present essay, I am guided in a great measure by numbers; as it must be allowed that they form the majority, and that a very considerable one, of the population of the district referred to. By this isolation, however, I do not mean it to be understood that the factory-employed hands are the only ones requiring the special attention of medical writers, but simply that the whole subject may be brought within the reasonable limits of a journal communication, leaving the question still open respecting other occupations which may form the subjects for subsequent enquiry, of equal importance with that of the present essay.

The fact of having passed the whole of my professional life amidst the densely populated manufacturing districts, will, I hope, be a sufficient apology for these observations, it being my conviction that the best evidence is that gleaned from the locality, the result of extensive practice and long observation of facts carefully recorded.

It is not my intention to extend these observations to an unnecessary length, by including diseases attacking only once in life, or those equally prevalent in other occupations, as both may be considered as more applicable to general rather than to particular classes of society; and will much shorten the matter under consideration.

In order to facilitate the method of enquiry, I shall divide the subject into sections. The first, from birth to the completion of the second year, the second, from the second to the fourteenth or fifteenth year, the third, from the fifteenth to the twenty-first, the fourth, the adult period of the female, the fifth, the adult period of the male, and the sixth, the declining period of life in both sexes. I have adopted this division that the diseases of each period of life may be better understood as to treatment. By directing the attention of the profession to a particular locality connected with any extensive occupation, I conceive much valuable information may be elicited, that may be of use to those destined to pursue their professional exertions in the same, or similarly situated localities. I well recollect many instances of professional men coming, hot from their studies, into the manufacturing districts, fully armed with the principles and practice of medicine and surgery, as taught by professors; whose experience has been (though extensive) founded from localities of a very different description, the diseases of which required a difference of treatment from the differences presented in the occupations, habits of life, food, clothing, &c. To such an extent may this error operate, that a line of treatment perfectly justifiable, and successful in one locality, may, when applied to another, be equally absurd and fatal. As an illustration, I might refer to the difference in character of typhus, in a stout, athletic, out-door labourer, in an agricultural district, when compared to the same disease in a weak, lax-fibred, emaciated subject, employed in a cotton mill of high temperature, and subject to constant exposure to the changes from that artificial heat, to a cold moist atmosphere without. How often have I witnessed fatal results in the practice of junior practitioners, from the use of the lancet in the early stages of typhus in the lax-fibred occupants of the manufacturing districts.

It would be impossible to approach this subject without admitting the fact that must be evident to every reflective mind, namely, that a manufacturing community must inevitably be a depreciated one, in respect to the physical powers of the human constitution. "Whoever has formed an idea of the English from Voltaire, would be surprised to find the rosy cheeks and robust athletic forms he talks of, changed into pallid faces, and weak, unsteady frames, that characterize the mechanics and cotton mill hands of manufacturing localities. The spade improves a population, but the loom spoils it. What a difference between a Scotch highlander and a Glasgow weaver! The one still retains the well-knit athletic form of the warriors described by Ossian; legs like the marble column of Lena, a breast high and ample as a cuirass, the colour of vigour in his cheeks, in all his deportment the fire and mettle of health and strength. The other on the contrary, is lean, ill made, old before his time, and feeble in his gait. What a contrast between an English coachman and a Manchester spinner! The former is the very model of Bacchus,—the latter of a prisoner for life."

Of late, attempts have been made to prove that the population of large manufacturing towns was not more unhealthy than others differently situated. In the recent returns under the registration act, the town of Liverpool, where little or no manufacturing is carried on, shews a higher rate of mortality than even Manchester, which is almost wholly a manufacturing population.

If there existed no reason for doubting the correctness *not of the returns themselves*, but their application to this question, it would indeed be a startling position, and of very difficult solution, but I conceive there exists sufficient evidence to prove the application fallacious.

It must not be overlooked that Liverpool has an extensive sea-port trade, causing a great influx of foreigners from various climates, subjecting them to the disadvantages of our variable climate, which many of them reach only to die, whilst, on the contrary, thousands of the native inhabitants of Liverpool by their adventurous spirit in almost every part of the world, not unfrequently contract diseases from which, in all probability, they would have escaped in their native air, are still anxious to return to their own land, and have their remains deposited along with those of their forefathers, all of which tend to increase the rate of mortality beyond what would be its legitimate line if dependent only on its own risks, as to employment and locality. Nor is this all. The casualties of a sea-port of such magnitude and bustle are infinitely greater, *which* are neither subject to the situation, nor effect on the constitution by employment. And lastly, Liverpool is the almost only available place of resort (sea air, for bathing, &c.) for one of the most extensive, and certainly most populous manufacturing districts in the world (*not for the rich who*

sire places of resort) but to innumerable shoals of the worn down, emaciated artizans for thirty or forty miles around, thousands in ill-health seek temporary relief, very many in the last stages of phthisis go there because their neighbours go, and others from bad advice, swell the bills of mortality in a distant locality after contracting the cause of death in their own neighbourhood. To be convinced of this the reader has only to perambulate the grave-yards of that extensive sea-port town, when he will find scarcely a tombstone but its records are chiefly those of strangers. After this let the right horse be saddled. Liverpool has in truth been but the last resting place of thousands who have fled thither in hopes of defeating the tyrant hand of death, whose grasp had been felt *as merciless* before they sought a purer air elsewhere.

I must not, however, omit in this place to state that although the manufacturing employment is decidedly and unquestionably pernicious, (indeed I believe the medical man is not to be found who could on reflection deny it,) yet it is equally evident, bad is made much worse by bad habits and indulgencies, producing as a natural consequence miserable dwellings, wretched clothing, and scanty, cheap, and indigestible food.

I shall now bring these introductory remarks to a conclusion, by at once entering on the subject already spoken of. In doing so, without considering which epoch of life is the most important, I shall commence with the period of infancy, and conclude with that connected with the declining years of life.

It is almost unnecessary to request the reader to bear in mind that my subsequent observations are in reference to the working classes only, of a particular occupation, and as such are to be estimated.

CHAPTER I.

From Birth to the Completion of the Second Year.

One of the first objects which arrested my attention (connected with this subject) was the average smallness of the children at birth, not merely in weight but stature. I had been for some time accustomed (as a student in Edinburgh) to see the children of the working classes at birth of much larger average size, and when I commenced general practice in the factory districts in 1822, the contrast appeared to me the more remarkable. From a number of observations I made in the early years of my practice, I found the average weight to be barely six and a half pounds for single births, and about ten pounds for twin cases. In Edinburgh some statements were made of averages at 7½lbs. single births and 11lbs. for twin cases. In respect to the length of the fœtus, authors very generally consider the average length to be about eighteen inches, whilst I was seldom able to meet with a child *that length*, so that the average must be much less. Again, the chalk coloured substance, so frequently found adhering to the child's body, and which is generally associated with fœtuses of meagre growth, is more frequently met with among these districts than in other places; the same may be said of the funis, when very thick. I have often observed a very thin strongly organised funis, attendant on the largest and most healthy children; but in the class of persons alluded to, the thick funis is very prevalent. From these observations, the inference will be drawn *from the size of children at birth*, difficult labours are comparatively rare, *such is the fact*; and on which I shall speak particularly, when on the section of adult female diseases, &c.; but it is necessary to state, that children do not often suffer much from long continued pelvic pressure, although asphixia at birth is a prevalent appearance. In treating of the diseases of early infancy, asphixia will be the first to which I shall direct the attention of the reader. The most usual cause of this affection appears to me to be constitutional debility, they are cases (which with very few exceptions) recover very well by allowing a little time before the funis is divided. I am convinced that many cases prove fatal from the inconsiderate haste often practised in this respect: it ought therefore to be made an imperative rule, never to divide the funis whilst the slightest pulsation remains in the cord. The extent to which apthæ prevails is very remarkable, scarcely a child but what suffers severely from it; and this, in a great measure, is owing to the absurd custom of almost burying the child under the bed-clothing, where the air soon becomes charged with deleterious principles, which the child cannot breathe without considerable injury, which is first manifested on the lining membrane of the mouth and fauces, soon to spread, if not checked, along the whole alimentary canal. Many of these cases, though apparently simple, are remarkably obstinate of cure; and I have found that medical applications are next to useless, if not seconded by improved principles in nursing. No plan succeeds so well as the insisting on the child being so laid as to insure a good supply of fresh air to the lungs; that is, not to bury it in the bed, but place the body so as to be perfectly warm, but the head to be raised on the pillow, and the face bare. It must also be borne in mind, that it is much healthier for the child to lie on a pallet by itself than in company with other children, or even with the parents. The mother, after suckling, should invariably put the child from her, on a separate pallet, by these simple means the first passages will seldom suffer from apthæ. The old remedy of the sodæ boracis rubbed down in honey, is, after all, excellent; the only improvement I can suggest, is the addition of a little pulveris cinchonæ, or a little infusi calumbæ to the old remedy, which makes it considerably more efficacious, and seldom fails in curing, if the above hints in the nursing department be attended to. Acidities in the stomach and intestinal canal are abundant enough in all classes of society; but particularly so among the factory community; arising from the wretchedly-bad nursing, and worse food, to which the children are exposed. I have frequently known mothers compelled to go to factory, and leave their infants (whilst very young) to the care of some hired old woman, who has probably two or three to look after, of different ages—who fed them all with some badly-made, and often sour, porridge, all out of the same vessel,—crammed the children, head and heels together, on a dirty bed, or crib, in a dark corner, as far removed from air as it is from light.

To be Continued.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., L. & E. [illegible]

LECTURE II.—Delivered December [illegible], 184[illegible].

GENTLEMEN, I purpose in the present lecture to draw your attention for a very few moments to what passed on the former occasion, and then to shew you the more immediate application to practice of the principles I then laid down; to shew you the practice, as well as the diagnosis and prognosis of diseases.

I take it for granted, now, that we already understand that the nervous system is divided into three portions,—the cerebral, the *true spinal*, and the ganglionic. With regard to the cerebral, I need hardly tell you that it is the system to which we refer all sensations, the senses; we refer to this system also all intellectual and mental operations—the judgment, the memory, and all the voluntary motions. I will just now state to you what I think is a very interesting point arising from this simple arrangement of the subject. Suppose you are called to a case of disease; your object is invariably to ascertain what are the symptoms of the case, and you must go through every one of the symptoms. Now, suppose it is an affection of the brain, where you want nothing to be interrupted, but every symptom to be united, and nothing imperfect what do you therefore inquire for? Whether, in the first place, there be any affection of the senses; whether, in the second place, there be any affection of the intellect; and whether, in the third place, there be any affection of the voluntary motions. You will consider whether there be any affection of the sight, or any affection of the sense of smell, or any affection of the sense of hearing, and so on. These, you will find, will be useful guides to the symptoms of diseases of the cerebral system. Now, then, the next question is, whether there is any affection of the cerebral system? In determining this question, the principle I have laid down enables me to enumerate the functions of the true spinal system. What are those functions? They are, in one word, all the acts of inglutition and deglutition belonging to the animal economy. First of all, the inglutition of the atmospheric air, inspiration, and expiration, in general terms; then there is the ingestion of the food, which is an act of deglutition, or any other function of inglutition there might be; for instance, the act of conception. Then come the acts of expulsion: the expulsion of the fæces, and the function of the bladder—the function of the sphincters. For I have said that the spinal system comprises the orifices and the outlets of the body. What we next come to inquire is, whether there be any morbid affection of the orifices or the outlets. But, to return to the cerebral system. You remember what I stated in the previous lecture. It was, that the cerebrum itself is not capable of exciting motion; that if you injure the cerebrum in any way, or lacerate it in every possible way you can devise, you cannot induce anything like motion or muscular contraction, or spasmodic action. Therefore, it is quite plain that if there be a disease of the brain—confined to the brain—you will have no spasmodic action; you may have an affection of the senses and the intellect—as in insanity; you may have a morbid affection of the voluntary motions, such as the act of mania, but you will not have a spasmodic action. Why will you have no spasmodic action? Because any disease of the brain is incapable of producing spasmodic action, or any muscular contraction. When, if you come to a case of disease of the brain, you find spasmodic action, and at the same time convulsion or contraction, or anything of that sort, you may be sure of one thing,—that, however much of disease of the brain there may be, there must be something more; the spinal marrow itself must be affected. And so with regard to all those functions and motions belonging to the spinal marrow. Now how are we to come at the disease? Suppose a person taken comatose, as in apoplexy. If the disease be limited to the brain, you will have no affection whatever of those functions which belong to the spinal marrow. You may have less consciousness, you may have perfect insensibility, and not the slightest power to move the hand or the leg; but, if you have other symptoms besides, you may be sure the disease is not one of the brain, or that it is not one, at any rate, confined to the brain.

We have lost a very valuable member of the profession very recently from an attack of apoplexy. I was asked the question respecting the probability of his recovery, and I said what are the symptoms? And it proved that there was stertorious breathing. Anything else?—Yes, there was ***disphagia***. Now you observe that in case of *disphagia* you extend beyond the cerebral system, you come to the spinal system, and I can say from the result of my own experience as a physician, and that of others, that *disphagia* is always an exceedingly fatal symptom. I do not mean to say that no patient will ever recover from *disphagia*, but I do mean to say that the prognosis of *disphagia* is more fatal when there are other symptoms of decided apoplexy. If the patient breathe pretty well, you may be sure that no vital organ is affected. But the moment the breathing is affected, the spinal marrow becomes affected, and you may trace the severity of the disease in the severity of the respiration. If continued, the patient dies, if, on the contrary, it ceases, the patient may recover. What I want to impress on your minds is, that if, in addition to cerebral affection, there be a true spinal affection, so the prognosis becomes infinitely more palpable, and the disease infinitely more difficult of treatment. Have we not, therefore, here a clue to the diagnosis? Have we not also a clue to the prognosis?—and have we not more certainty as to our mode of treatment? I have said that the brain is incapable by any injury or laceration to produce spasmodic action. You cannot

touch the spinal marrow in any way but you produce spasmodic action. If you touch the medulla oblongata, or if it be affected by disease in any way, there is immediate convulsive action, immediate muscular contraction. If you then come to a disease in which spasmodic action occurs, you may be sure that the spinal marrow is injured. Disease I have said affects the spinal marrow, but this may be produced by some organic disease elsewhere. And this, I should state, is an important thing, if there be pressure on the spinal marrow it will produce spasmodic action. There is an interesting case recorded by Mr. Laurence, in which a fœtus was born without a brain. When pressure was applied to the medulla oblongata the body was thrown into convulsions. There is also an interesting case recorded by Dr. Abercrombie, in which there was effusion into the ventricle of the brain to such an extent as to separate the parietal bones, and there was a considerable tumefaction. On touching this there was no convulsion, but the moment he touched the medulla oblongata the child was convulsed. You see then what happens when the spinal marrow is injured by organic disease or external pressure. There is a disease of the brain called hydrocephalus. Now in one case of this disease of the brain there are convulsive actions,—and why? Because it is quite obvious there must be pressure on the medulla oblongata. But in one case of hydrocephalus there was no such symptoms, because the bones of the skull were not united,—means could be adopted to separate them from each other? Now in one case you have no injury to the medulla oblongata, whereas in the second case, *pari passu*, the result may be convulsion or spasmodic action; so that it is quite obvious there cannot be convulsive action from pressure or disease of the medulla oblongata, but some other part of the spinal marrow must be diseased. Now then we will return to the disease called hydrocephalus of the brain.

One of the most important symptoms of this disease of the brain is the rigid contraction of the limbs and the muscles of the body. How do you account for this? I have said that disease of the brain cannot produce spasmodic action. How do you account for this then? This question I put to some medical friends of mine in Paris, and not one of them could afford an explanation of the phenomena. It is obvious from what I have stated to you, that in acute hydrocephalus there is a considerable degree of tumefaction produced, which results in a pressure on the medulla oblongata, and here you have the symptoms accounted for.

I think it must be already perceived by you that this study is one which—whether it be viewed with regard to its philosophy or physiology—is one that has immediate application to practice, which is a point of great importance to you all.

Now, before I go any further—to the department of the science of medicine to which this matter has immediate application—I wish to show you that the phenomena I have been describing are made obvious under various circumstances. This frog is deprived of the cerebrum by an incision just below the occiput and just above the origin of the brachial plexus. It was a perfectly lively frog before the incision was made. If I touch one of the anterior extremities, it is immediately withdrawn: but what I wish you particularly to observe is, if I irritate the other extremity it is not withdrawn. Now the first incision made was to sever the brain from the spinal marrow, therefore there can be no voluntary motion. I have removed the central organ of voluntary motion. If I touch the anterior extremities, it will shew there is a connection with the spinal marrow. By what means?—voluntary nerves? No; for that cannot be, unless they continued uninterrupted to the brain. There is here no continuance, inasmuch as I have separated the brain from the spinal marrow, from which the action of the voluntary nerves is reflected to the muscles. What is the reason then that we have no convulsive effect when I irritate one of the limbs? The reason is this—we have divided the *sciatic* nerve. You know that the spinal marrow is the centre from which springs the *sciatic* nerve, and as this nerve receives an impression, its effect is carried out in a reflex way on the muscle. The reflex action is perfect because of the perfect connection with the spinal marrow. At the former lecture I showed you the experiment of a frog de[illegible] of its brain, and its ganglionic system entirely, but I did not show you the more important experiment arising from it. We may deprive the frog of the brain and ganglionic system entirely, we may divide it entirely, and yet we shall find that—the two anterior extremities being endowed with a like proportion of spinal marrow,—when I irritate one extremity it appears to move, and the other does not. It is one of the most remarkable experiments I could bring before you. You have actually a portion of the animal living by the true spinal system. Here I have a salamander, in which the phenomena are exceedingly interesting, because I have actually divided the spinal marrow in three places. This salamander was alive a short time ago, and notwithstanding that I have divided it into three parts, when I touch the anterior extremities they move, when I touch the posterior extremities they move, and when I touch the last portion of all, the tail, that moves also. Another experiment is exceedingly interesting in another point of view. You may have the several parts of an animal in a state of *tetanus*. This salamander is made tetanic by applying to it a few grains of strichnine, and afterwards dividing it. That portion to which the anterior extremities are attached is tetanic, the posterior extremities are tetanic and the tail itself is tetanic. Having made the animal tetanic before I divided it, the portions themselves remain tetanic, and I show this experiment to prove that some change has been effected to cause tetanus in the spinal marrow itself, and the nerves connected with it. Tetanus must have made the change, because every part of the animal is tetanic. Therefore, it is certain that not merely the spinal marrow, but a congeries of organs, or succession of organs connected with it, have been affected, and it is very possible that the communication of the spinal marrow with the ganglia in the crustaceous animals may be really proved by experiments of this simple kind.

To revert once more to the functions of the spinal marrow. It often has the power, when touched or injured by the least thing in the world, of producing spasmodic action, and I need not tell you again that the same power acts in ingluttition and deglutition, and that the same power acts in closing the orifices into the body and closing the exits, the sphincters and passages that lead out of the body. In all spasmodic action the spinal marrow is effected. I do not say primarily, but secondary only, and this is the case with disease of the brain, where the disease or affection of the brain is not confined to the brain itself, but affects other organs. Disease of the brain may occur in a distinct form, in that sense of the word, in connection with the incident nerves. Suppose a case of some morbid crudities being taken into the stomach: these crudities may affect the pneumogastric nerve, which will carry the effect to the medulla oblongata and the impression may be further reflected. This is the case in many convulsive diseases in children, as well as adults. I may just mention a fact which is very well known to you all; you may irritate the sphincter of the bladder. You know the effect of calculus, which is to produce such a contraction of the sphincter ani as to disable the patient from discharging urine. A patient came to me the other day with this complaint. I begged an efficient surgeon to pass a catheter; that gentleman did so without hesitation, and without knowing my object. What was the consequence? He impinged on the calculus. I knew *that* must be the case; but I thought to make the case doubly sure by having the catheter passed. It was one of those happy hits that we experience in pursuing pathological and physiological investigations.

Now, we know nothing of the ganglionic system, or at least, very little is known of that system. That subject remains to be investigated and developed by those who come after me. The ganglionic system is that power under which all formation, all nutrition, all absorption, and all secretion is performed; therefore, that being affected may affect these different secretions. I believe the ganglionic system is divided into two portions—the external and the internal. Now, what are these intended for? We may suppose the internal ganglionic system is for nutrition and absorption, and that the external ganglionic system is for the same purpose; so that, while there are internal organs requiring nutrition, there are also external organs requiring nutrition; and the same with secretion. I need hardly tell you that perspiration is usually performed by the external organ, and that would lead us to suppose that there are internal ganglia for internal purposes, and that the external ganglia may probably be for external operation of the same kind: and it is so. There is a very interesting experiment by M. Majendie; he gave me an instrument by which he could readily divide the fifth pair of nerves within the cranium, leaving the casserian ganglion in that part detached from the brain. It is quite plain, therefore, that here you have the nerve injured with the ganglia upon it. What is the consequence of this injury? The eye is not nourished. It appear to me, therefore, that if you injure the casserian ganglion, the consequence is, that the eye is not nourished; that this organ is the organ of the nutriment of the eye. I must make one remark: it seemed to him that this experiment was of little worth, for it led to nothing. But, gentlemen, it so happened, a very short time after that a patient in one of the hospitals in Paris lost an eye; the surgeon under whose treatment the patient was placed, happened to know the experiment of Majendie, and he said, "what is this,—disease of the eye?" He did not suspect the injury of the nerves which lead to the globe of the eye. he said, "how am I to treat this case? what do you think is the treatment? you have only to press the eye back." Now, in every instance in which the eye is perfect and uninjured in its structure, whenever you touch the eyelash, the eye closes; so that, if you touch the eyelid and it remains stationary, you may come to a conclusion of this kind—that we have a secondary kind of evidence of the destruction of the fifth pair of nerves on the brain. However, very naturally, the patient died. On examination he found the structure entirely disordered; of course, the fifth pair of nerves totally destroyed. Here you have a very interesting series of facts; first of all the experiments founded on the disease—the disease indicating the experiment—and then the series of nerves performing the office of nutrition to the ocular structures under the influence of the casserian ganglion within the brain. If that is the case with one set of nerves, we may argue that it is so with all ganglia in connection with the nerves proceeding from the spinal column. I cannot go further, because I am not aware of any facts to prove it; but, I say, that if the destruction of one ganglion will produce a certain effect, you may conclude that the destruction of the other ganglia of the same kind will produce a similar effect to the organs with which they are connected.

I have just laid before you my notion on the subject. It is that the internal ganglia with their nerves constituting the ganglionic and sympathetic system, are for the purposes of nutrition, secretion and absorption internally; whereas, the external ganglia are for the purposes of the nutrition of the exterior of the body. Having gone thus far, what I wish to do now is to go once more over the three divisions of the nervous system; namely, the cerebro-spinal, the true spinal, and the ganglionic. I might add a few observations on another subject, namely, the state of the functions generally, in a state of rest, and a state of sinking, or a state of slow dissolution; but I would rather leave that part of the subject for a future opportunity, and pursue the subject in a different direction. I want now to bring before you the true spinal system, and to show what bearing it has on that division of the nervous system which I am laying before you. Suppose the case of a fœtus in the uterus. I need not tell you that no use can be made of the internal senses, if they are kept from any external impression. I might almost have said, there is little or no need for the true spinal system. But there is a need of the true spinal system, and it is of this kind. Without the true spinal system, the eye-lids might be irritated; without a

true spinal system, the liquor amnii must pass into the trachea—but I have no doubt the larynx is well covered in the fœtus, so that it cannot depend on the continual operation of the spinal system—and if the larynx is closed, a drop of water placed in the mouth would pass into the glottis. There are secretions in the bladder; now these secretions might be expelled, if it were not for the safeguard of the true spinal system. One most important point of the uterine nervous system is the ganglia. I need not tell you that all formation goes on—every act of formation—every act of nutrition—every act of secretion, implies the continual agency of the ganglionic system. Now this proves what I have been saying, and here we have one of the most remarkable cases. In the first place, the fœtus is born without a brain, and is perfectly developed. It is quite plain that a fœtus perfectly developed may, nevertheless, be entirely destitute of brain. One case is recorded by Mr. Lawrence. The spinal marrow was perfect from the beginning; so were all the ganglia perfect; the infant was perfectly developed all but the cranium, there being an entire absence of brain. For instance, the fœtus was born with no cerebral life. But Gentlemen, the fœtus lived in this case, for a short time, a true spinal life. It eats, and swallows, and evacuates; the intestines and the bladder perform their functions. I wish here to make one remark. It is, that the brain has nothing apparently to do with the functions of the true spinal marrow and the ganglionic system; yet these functions cannot grow without the brain,—that is to say, no animal can live long without a brain, if I except animals of the very lowest orders. If a fœtus is born brainless, it may live forty-eight hours. I have watched a fœtus in this state to see the whole of the phenomena. But what is its life? Its life is mere breathing: a mere capacity for swallowing. Nothing is more interesting. I was going to say, more awful, than to see a human being deprived of that which is the type of humanity—namely, the brain. We know, then, that such a fœtus cannot live; but such a fœtus may cry; that is to say, it may make peculiar noises, which may be considered crying. Yet we should be perfectly aware that such an event may take place. It may take place under much more painful circumstances. I was told, but the other day of a case, similar to a case given in the Medico-Chirurgical Transactions; it was necessary, from deformity of the mother, to have recourse to the step of cranitomy, and this was performed in the most perfect way. The child was born, and it cried; but it is impossible to say that the child cried, in the ordinary use of the word. You can hardly imagine the state of mental harass and suffering of the practitioner in such an event as this. Why do I mention it? In the first case, because it is an exceedingly interesting subject; and in the second case, to put you on your guard, if you are ever called upon to destroy the brain, be quite sure that you destroy the medulla oblongata. Well then, as I said before, the child may live forty-eight hours; it will never live beyond that period. I have made one remark, which I repeat by another observation, namely, that the animal functions cannot go on permanently independent of the brain. In idiots, life is found to be pretty nearly in proportion to the brain. We find that idiots with small brains generally are short-lived, but if the brain be developed they may attain to the age of puberty, or even long life. We have seen, therefore, that a fœtus may be perfectly found without a brain, and may have the medulla oblongata entire. How do we know that? In the first place, there are many cases on record of a fœtus born without brain, without spinal marrow; without a particle of either of these organs, yet perfectly developed. I have such a fœtus in my museum. The fœtus is perfectly sound; every limb is perfect; every internal organ is perfectly formed; the ganglionic system is perfect, and all the nerves going to the spinal canal perfectly formed; nothing is wanting but the spinal marrow. Here then, we have a most perfect formation, all under the guidance of the ganglionic system. The intra uterine life may be quite perfect, although there be neither brain nor spinal marrow; but what happens the moment the child is born? It cannot breathe: it cannot live an instant; that is to say, not longer than it could in any other circumstances, deprived of respiration. Here you have a most interesting fact whilst in that of intra uterine life being perfect during the period of nine months, and the extra uterine life cannot last five minutes.

I must conclude this lecture with an observation or two on circumstances that will occur to you all in actual practice. It often happens that a fœtus is born *still*, apparently in a state of apoplexy. I believe still-born children are, generally speaking, placed in peculiar circumstances. The brain may be compressed, as in hydrocephalus, and that may cause a compression of the medulla oblongata. If that is so the child cannot live; you have no means of removing the cause. But the child may be still-born sometimes, that is to say, it may not begin to breathe, though there is no apoplexy of any kind. Then the first question is as to the diagnosis. I have not the slightest idea of the diagnostic phenomena. One of the most interesting points to determine is the diagnosis between a still-born child in consequence of the compression of the brain and the medulla oblongata, and the other case of asphyxia, depending on other causes. The first question to be considered is,—as respiration is the new life to the fœtus, what is the cause of respiration? I consider Professor Muller perfectly wrong in supposing that the causes of respiration are dependent upon the circulation of the medulla oblongata. I tell you once for all that this perfect circulation of the medulla oblongata is necessary to respiration, and that without this excitor, respiration cannot be excited. However, the respiratory phenomena are not physiological acts, and to this point I shall have again to advert. When the fœtus is born, I believe the first excitement to respiration is the impression of cold air on the nerves of the whole surface. A friend of mine once attending a very interesting case; the child was just born, he waited until he should hear the child either breathe or cry, and having waited for the usual length of time, the child did not either breathe or cry. He was about to take it from under the bed clothes and try resuscitation, when the moment the clothes were lifted up, that moment the child made a gasp. This was the beginning of that respiration, without which life cannot exist. Here is an interesting fact. Suppose a case of an infant still-born, what would you do? You will naturally say what is the physiology of the case? What does nature do? Nature makes an impression on the whole surface—then you may follow nature. I believe it is common to blow in the face of the child, and on the general surface, and in this manner the act of inspiration is excited; if that does not do, then, without allowing the infant to cool—for if it does the impression cannot be made—take a few drops of very cold water, and dash them on the face. There are other means to be adopted, but this I believe to be nature's means, and the imitation of nature's means I think decidedly the best. The surface of the child ought not to be allowed to cool, for if you dash cold water on a cold surface, you will produce no impression; there is no difference of temperature, and therefore no impression can be made. You must take care that the general surface is kept exceedingly warm, and then you produce only a contrast between the warm surface of the body and the cold water. By applying cold water to a surface never cold before, you produce the peculiar effect which is the act of respiration. I will not go further into this subject, because my object is at this moment only just to bring forward facts to illustrate the general subject, and I shall, therefore, leave it for those whose more immediate duty it is to address you on the subject of resuscitation from asphyxia.

I shall now lead you back once more to the subject of the nervous system, especially the true spinal system. I repeat then that the brain is the centre of the cerebral system, and the centre of all those phenomena which relate to sensation, intellectual power, and voluntary motion, and that by means of the brain we are, as it were, connected with the external world mentally. That it is by this means I can place my finger in a certain position, and take up an instrument, or anything else, and put it down again. I make use mentally of external objects—all those objects that are external to my senses. If we want to arrive at an object it is under the guidance of a certain set of nerves that we are enabled to do so; it is by means of the impression made on the external nerves, which impression is reflected on the nerves in the interior of the body. If a certain element or fluid be placed within the larynx, it is often that no sensation takes place, and it shews that it is entirely independent of the cerebral system, because a fœtus without a brain may swallow and perform the organic functions in the same manner as a perfect being.

In the diagram here given

TABLE OF THE TRUE SPINAL AND EXCITO MOTOR SYSTEM.

A. INCIDENT EXCITOR BRANCHES.

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1. The Trifacial arising from
   - A. The Eyelashes
   - B. The Ala Nasi
   - C. The Nostril
   - D. The Fauces
   - E. The Face.
2. The Pneumogastric, from
   - A. The Pharynx
   - B. The Larynx
   - C. The Bronchia
   - D. The Cardia—kidney and liver
3. The Posterior Spinal, arising from
   - A. The general surface
   - B. The glans penis—vel clitoides
   - C. The Anus
   - D. The Cervix vesicæ
   - E. The Cervix uteri

B. THE TRUE MEDULLA OBLONGATA, THE MEDULLA SPINALIS,—THE CENTRE OF THE SYSTEM.

C. THE REFLEX MOTOR BRANCHES.

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4.
   - A. The Trochlearis } oculi
   - B. The Abducens } oculi
   - C. The minor portion of the 5th
   - D. The Facial distributed to
     - A. The orbicularis
     - B. The levator Ala nasi
5. The Pneumogastric, or its accessary
   - A. The Pharyngeal
   - B. The Laryngeal
   - C. The Bronchial
   - D. The Cervical, &c.
6. The Hyo-Glossal
7. The Spinal, distributed to
   - A. The diaphragm, and to
   - B. The Intercostal, and
   - C. The abdominal muscles
8. The Sacral, distributed to
   - A. The Sphincters
   - B. The expulsors, the ejaculators, the fallopian tubes, the uterus, &c.

you see the whole of the functions that come under the guidance of the spinal marrow arranged, and it is important to carry that arrangement in your minds, because, whenever you have to inquire into the nature of a disease relating to the spinal marrow, you cannot have a better arrangement in your mind to assist you in ascertaining the different phenomena, and the different symptoms of the disease. If you come to the ganglionic system, you will consider whether it has any relation to the subject; whether any disease can be referred to this system. But I say, the phenomena of this system are very obscure, and so is its morbid anatomy very obscure, and therefore I cannot say one-tenth part about the ganglionic system that I can about the cerebral and the true spinal. There is no question that morbid states of the urine may be induced by morbid states of the ganglionic system, and so also the morbid secretion. In this manner you observe that physiology has immediate reference to pathology; pathology refers to diagnosis, to prognosis, and to practice. Whenever I go to visit a patient who is affected with nervous disease, I always go through in my own mind this arrangement, whether there is any affection of the intellectual power; whether there is any morbid aberration of the mind, or any affection of the voluntary motions. If I see anything established, I trace in my own mind all that relates to the true spinal marrow. I have no difficulty, because I am led to consider which functions are essential to the circulation of the spinal marrow. I also inquire whether there is any internal disease in conjunction with or dependent on any mor-

bid state of the ganglionic system. In this manner I have a most useful pneumonic. I hope I have said enough to convince you that to be good physicians you must be good physiologists. I cannot imagine, that any one can be a good practitioner, without being able to trace in his own mind, all that is known of the physiological condition, as well as the pathological condition of the patient. In fact, without physiology you cannot understand the nature of the disease, or take one step with regard to the treatment. I purposely avoided to day, many allusions to therapeutics, of which I gave you some examples at the last lecture, and I am anxious not to protract the subject beyond the second lecture; especially because I think that the ensuing lectures ought to be confined to the diseases of the nervous system. I shall therefore take up, at the next lecture, the cerebral diseases, and then go in the usual manner to the different diseases of the nervous system.

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A false-hearted rogue, a most unjust knave; I will no more trust him when he leers, than I will a serpent when he hisses: he will spend his mouth, and promise like Brabler, the hound; but when he *performs*, astronomers foretell it: it is prodigious; there will come some change.

SHAKSPEARE.

WHAT, in the name of charity, are we to do with that miniature Paracelsus of the Nervous System—Dr. Marshall Hall? What unseen demon possesses him, that he so resolutely violates all that common sense and honesty most plainly teach in his eagerness, to make enemies, and hasten his ruin? Horse-whipped by a few—snubbed and disowned by many—laden, bowed down, shrivelled up with the contempt and hatred of more; shunned and detested as something loathsome in the pathways of Science, by all who at any time have been condemned by circumstances to put up with his acquaintance—thus discredited,—thus dishonoured,—thus degraded—without a friend—without scarcely a recognizing acquaintance, he yet acts—this wretched man—as if he had no future duties on this earth but to prove the justice of his ignominies, the personal earning of his calamities. Where, or under what circumstances, is it possible to conceive so favourable a fortune for him, as in the forbearance, the kindness, the overflowing charity with which we have ever treated this unfortunate victim of his own unprincipled temper? When referring, a short time back, to the unmerciful pecking he received from Dr. Copland, who pulled from him—before the amused audience of the Medical Society—every gaudy feather with which, at Sprengel's and Boerhaave's expence, he had so liberally decked himself—did we not step out of our way to urge him to more original efforts, on the friendly plea, that he might trust more to the native powers of his own mind? At various intervals, have we not inserted the little notices to which he was personally anxious to attract public attention?—charitably feeling that, if true, but not new—or new, but not true—'twas a pitiful category, which should not hinder our recollecting that, as the plainest wife must have clothing, and the poorest horse stabling, a persecuted physician can pay for neither, without patients. Finally, a fortnight since—summing up our kindness in one cumulated effort—did we not pledge ourselves to do him that service of services—the "sorest test" of friendship—*publish his lectures?* And, stretching courtesy to its height—using that liberty with our own friends, we would not have ventured on to the readers of any other Journal—did we not speak of these lectures as a suitable pendant to our admirable lectures by Professor Owen (perhaps the similarity of *subjects* may pardon this), and further, venture to attach to his name (in *our* own Journal, at least) that word, "*distinguished*," which, applied to any other F.R.S., would have carried not the most distant shadow of irony with it, but which, applied to our unfortunate Paracelsus, has produced us more quizzing letters than all the other subjects ever handled in the *Medical Times?* Was ever godsend, to a man struggling with circumstances, more complete or perfect than this? But our predestinated friend returns for this—the aid, the kindness, of a powerful Journal—not "*une isolation noble et fiere*," though that might be absurd enough, but a bold course of desperate hostilities, which he even violates honour and breaks faith, forthwith to commence. It is written, that the hand of Ishmael was against every man, and every's man's hand against him. Verily, Marshall Hall, reviving this worthy character, is our MEDICAL ISHMAEL. Appropriating, as usual, his predecessor's highest feats in this peculiar mode of distinction, he (not as usual) here excels him—for our Ishmael's hand is not only against every one else, but against himself,—his hand is against *Hall*, and the hand of *Hall* against him. But, without more preface, let us put the whole transaction before our readers,—such as Dr. Ishmael Hall's letters to the Editors of the *Medical Gazette* and *Lancet*, with our explanatory reply, exhibit it. Our reply has been sent to the Editors of those two Journals,—and as we cannot, with stretched ingenuity, divine a reason why it can *honestly*, or even decently, be denied by them publication, we may take it for granted that it will appear, at least, in the *Medical Gazette*. To the conductors of the *Lancet*, "honesty and decency" are appeals that find no place to impinge on.

To the Editor of the Medical Gazette.

SIR,—Observing an advertisement on the cover of the last number of your journal, relative to the publication of my lectures, I think it proper to make the following statement.

The short-hand writer of the *Medical Times* called upon me a few days before the commencement of my lectures at St. Thomas's, to say that it was his "*intention*" to take down my lectures for that publication, adding that, as he was not versed in medical terms, it would be a service to *him* if I would correct any verbal errors in his MS. I replied that I had no objection to do so; preferring that my lectures, if published at all, should be published correctly. When I read over the notes of the first lecture, I found them, from the cause assigned, so incorrect, that it became necessary to re-write them. This too, from the same motive, I was also ready to do, time being given. But having consented to correct my lectures for correctness' sake, I did not expect that *the matter would be made public, as if I had entered into a spontaneous arrangement* with the editor of that publication. I beg to add that, on seeing the advertisement on the cover of your journal, I immediately addressed that gentleman, withdrawing any co-operation whatever in this matter.

I am, Sir,
Your obedient servant,
MARSHALL HALL.

Manchester Square, Dec. 10, 1842.

(REPLY.)

To the Editor of the Medical Gazette.

SIR,—Your insertion of Dr. Marshall Hall's *injurious* and certainly *not over correct* charges, gives me a claim, in *honest English fair play*, to a reply; and I dare say our being fellow Journalists will not invalidate that claim.

As far as Dr. Hall has made himself understood to me, his charge or charges resolve themselves into this:—That I announced his correction of his lectures "*as if* he had entered into a spontaneous arrangement with me." He does not complain of my doing something, but my doing it as "*as if*"—a kind of constructive guilt which once counted against the sovereign, and still counts, it seems, against Dr. Marshall Hall, Fellow of the College of Physicians. Unfortunately, even this ingenious "constructive" charge is without truth. The announcement I ordered is the shortest, plainest, least ambiguous, and most free from "*as ifs*" possible, viz., "a set *reported verbatim expressly* for the MEDICAL TIMES, and carefully corrected by the Lecturer"—calling the most possible attention to the reporter's labours or merits, and the least possible to those of Dr. Hall. When Dr. Hall therefore asserts that I announced explicitly or implicitly "his entering into a spontaneous arrangement with me," he says that which is not true, as he knew. But though I announced no such thing, Dr. Hall *knows there was a spontaneous arrangement*—with *me* too—and not with me only,—but with the *reporter* also; and this twofold spontaneous arrangement was not only to *correct*, but to RE-WRITE his lectures: and conscious of this disgraceful compact—for it was disgraceful to *him*, if it were meant underhand and on the sly; his timidity took everything, however distant, for the divulgement of his *compromising* secret. He himself avows he did not discourage the reporter's intention to give his lectures. *He* owns he offered him assistance; that he pledged himself to *correct*, nay to rewrite them, and although he now explains the latter offer by the flimsy and palpably false pretext, that the lectures needed it from the incorrectness of some *medical terms* (which any medical man could correct in five minutes) yet the fact is unchanged, that he did enter into a spon-

taneous arrangement *with the reporter*, first to have his lectures reported, secondly, to revise them when reported, and thirdly, *to rewrite* them. But further, though Dr. Hall says he undertook the revision and rewriting to do a personal service to the reporter, who applied, according to Dr. H., not for me, not for the journal, but for *him*, the reporter, (Dr. Hall marks this fact in italics) yet unwritten to by me, unasked, uninvited, spontaneously, if he like the word better, did Dr. Hall *write* to me, hitherto a passive party in this matter—to what effect do you think. Sir? Why, that it had *occurred* to him (kind friend!) that it might be well to postpone the insertion of his lectures until the first number in the new year," and "*undertaking* in that event to write them out himself." He gave his reasons. "They would be *more* perfect, *and of more service to me*." (the editor of the M.T.) But his considerate kindness, his provident solicitude for me did not end here, for he "arranges" to do the work "well," and concludes with a familiarity of friendship which puts my modesty to confusion. "YOU MIGHT INSERT SEVERAL NOTICES, AND EXCITE A LITTLE EXPECTATION!" This letter is dated the 8th inst., the advertisements announcing careful revision by the lecturer appeared on the 10th. So you see, sir, the "spontaneous arrangement" which the fastidiously delicate "Fellow" thinks so disgraceful even in imagined possibility, absolutely did take place in full plenitude, with every aggravating complication, and that too not only with me, but with my *employé* also!

Dr. Hall being a gentlemen who can do great good on small inducements, says that he offered to re-write the lectures because they were so faulty. They may be faulty—but as every one sees on reading them, they are exactly as he delivered them. If this then be a charge against himself, let him answer it to his insulted audience—if against the able reporter, whose bread depends on his reputation, it is a miserable calumny which no man of spirit, however driven in self-defence, would have resorted to.

That reporter's answer to this, as to Dr. Hall's other statements, is conclusive. He affirms that, directly or indirectly, Dr. H. *sought* the report of his lectures in the MEDICAL TIMES, unasked, gave him a card to the lectures, invited, courted, welcomed the revision of the lectures—declared, when he saw the first, that it was "word for word," and read it *before the reporter* in his own parlour saying page after page "there is nothing to correct in that;" and he further asseverates, that Dr. Hall at every interview was exuberant in his expressions of anxiety to serve the editor of the MEDICAL TIMES, and felicitated himself that he had now an opportunity of making what he called "an atonement for his past inactivity." If Dr. Hall, therefore, be not —as universal report has it—fatally compromised to the *Lancet* by the reviewship of his own books, none but himself can understand or explain the excito-motor principle of his recent letter to you—a letter which, whatever may be thought of the originality of his physiological theories, puts that of his civic practices far, very far, beyond dispute.

Replies, sir, always require more space than charges, which are often mischevious in proportion to their unspecific brevity; but I trust you will overlook the length to which my observations have extended in pity for an unfortunate brother editor involved *bongré, malgré* in a contention with a person in whom the very genius of professional squabbles seems to be incarnate—who, as if under some singular fatality, can have no dealings either with his contemporaries or predecessors in medical science save to their loss. Appending to this statement, the explanatory observations of my much esteemed collaborateur, Mr. Piers Healey, the barrister, and of Mr. Gregory, the reporter engaged in the case,

I am, Sir,
Your obedient Servant,
The Editor of the "Medical Times."

Note from Mr. Healey.

My Dear ——,

I am too happy to have an opportunity of expressing my entire concurrence, not only in your statement of facts, but in every sentiment you have expressed in reference to them. If Dr. Hall, after your *exposé*, which I now very willingly make my own, do not lose caste —if that misfortune still await him—I shall have an humbler opinion of the heads of your noble profession, than anything in their past history warrants.

Believe me, my dear ——,
Very faithfully yours,
T. PIERS HEALEY.

Essex Street, Dec. 17th.

Reporter's Note.

16, St. James's-st., Clerkenwell.

Sir,—Having read your note to the editor of the *Medical Gazette*, I conscientiously testify that all therein related, with regard to myself and my interviews with Dr. Hall, is true to the letter. And, in contradiction to Dr. Hall's statement, which to my own knowledge contains but one assertion which is not either a falsity or a mutilated truth, I pledge my character as a short-hand-writer of nine years' experience to the entire correctness of my reports of the lectures, now in course of publication in the MEDICAL TIMES.

I am, Sir,
Your obedient Servant,
H. GREGORY.

Where—we are tempted to enquire—where did this modest, truthful, honourable, gentlemanly exemplification of the want of worth—this Fellow of the College he abused—where did he learn his peculiar, his *very* peculiar manners and morals? The confidential medical adviser of the discharged footman, the journeyman joiner, and the broken-down clerk, who formed the respectable Direction of the West Middlesex Insurance Company—the consulting physician to this low-lived gang of obvious swindlers—was he a master or a scholar in their promising school? Did he learn, or teach, there, those elevated practices which give him, in a profession marked by all kinds of anomalies, a circle of distinction so peculiarly his own? We should have concluded in asking, if no amount of newspaper exposure—no magnitude of general snubbing—no extent of enforced isolation —no severity of repeated horsewhipping—could shame or terrify the "Fellow" into common decency, common sense, common honesty; but remembering that at once atoning and explanatory cause—his useful monomania of the Reflex Functions—we exclaim,—Alas! poor man! would that he had some friend left—some strangers' charity yet unalienated—that, now, that he has told what he has picked up on the Nervous System, he might be shrouded from public view, and protected from himself, in some friendly asylum, where, enjoying the novelty of innocuous repose, he might feel the benefit of that moral restraint, the object of so many of his prescient laudations, and the highest fortune that can now await him.

CORRESPONDENCE WITH MR. WAKLEY.

In reference to the reply sent, as before mentioned to the *Lancet*, we have had the following correspondence with Mr. Wakley.

(No. 1.)

Mr. Wakley has to-day received a communication, without date or address, signed "the Editor of the MEDICAL TIMES," and accompanied by two notes, signed T. Piers Healey, and H. Gregory. If the author of the communication will append his name and address to it, Mr. Wakley will insert the letter and notes in the next number of the *Lancet*, to the editor of which journal the communication is addressed.

35, Bedford Square, Dec. 19, 1842.

(No. 2.)

Medical Times Office, Dec. 19, 1842.

The editor of the MEDICAL TIMES, happy to find that nothing but proof of the genuineness of his letter delivered this morning to Mr. Wakley is required, to insure its insertion "in the next number of the *Lancet*," hastens to enclose a document which will remove every doubt on that subject. The absent date should be Dec. 17, the address Medical Times office.

ENCLOSURE.

Sir,—I beg to give you my personal assurance that the letter delivered to you this day, and referred to in your note of the same date, is the genuine letter of the editor of the MEDICAL TIMES, and further, that the letter signed H. Gregory is a copy of one written by the reporter of the MEDICAL TIMES, as that signed T. Piers Healey is a veritable copy of one written by myself. I moreover offer myself as personally responsible for the truth of every statement in the said letter of the editor of the MEDICAL TIMES.

I have the honour to be Sir,
Your obedient servant,
(Signed) T. PIERS HEALEY.

Essex Street, Dec. 19th.

(No. 3.)

"The editor of the MEDICAL TIMES" cannot fail to perceive that he has not complied with the request contained in the note of the editor of the *Lancet*, dated yesterday, namely, that he would authenticate with his name the communication to which reference was made by the editor of the *Lancet*.

35, Bedford Square, Dec. 20, 1842.

(No. 4.)

The editor of the MEDICAL TIMES is at a loss to know *why* he should confide his name to Mr. Wakley's keeping, when that "authenticity" Mr Wakley seems anxious for, has been placed beyond all doubt by Messrs. Healey and Gregory's attesting the accuracy of the communication with their names; and by the former gentleman's honoring Mr. Wakley with the assurance, that he took upon himself the responsibility of all the statements and opinions expressed therein by the editor of the MEDICAL TIMES.

The communication being evidently from Mr. Wakley's offer of insertion, not unsuited for publication in the *Lancet*, there being—as may be presumed from the same offer— and

which indeed is clear on the face of the communication, a claim in justice, and "honest English fair play" for its insertion—"the authenticity, also, which was asked, being" furnished, backed moreover, by what was masked, the personal responsibility for every statement, of a highly respectable member of a learned profession; the editor of the MEDICAL TIMES cannot explain why anything else—save under a misunderstanding—*can* be asked except in the supposition, that Mr. Wakley has been *diplomatizing* to escape with some grace an act of common justice and 'honest English fair play," by demanding as a preliminary what he felt was unnecessary, and knew would not be conceded

If not favoured with a satisfactory reply in the course of to-morrow, the editor of the MEDICAL TIMES will feel it necessary to insert this correspondence in the next number of that Journal.

Medical Times Office,
December 20th, 1842.

SPASMODIC STRICTURE OF URETHRA, RETENTION OF URINE, AND PUNCTURE OF THE BLADDER ABOVE THE PUBES.

By W. SMITH, Surgeon.

(For the 'MEDICAL TIMES.')

PRIVATE ROBERT MITCHELL, hospital corps, British auxiliary legion, at St. Sebastian, after indulging a little too freely with liquor on the forenoon of the 5th of May 1837, was seized with symptoms of retention of urine in the evening. These at first, however, gave him little trouble, as he had been subject during these last few years, on occasional and similar debauches, to similar attacks. During these attacks, he stated that it had been frequently attempted to pass the catheter, but uniformly without success; and under these circumstances, the effects of the spasm had always been subdued, and a discharge of urine produced by fomentation or the warm bath. As these means had not even always been necessary—the bladder having not unfrequently after considerable distention evacuated its contents with more or less difficulty at a longer or shorter period—the patient, who was himself at this time an orderly in the hospital of St. Telmo, made no application to the orderly medical officer during the night, nor until the visiting hour next morning, when he was seen by Surgeon Docker and myself, as he was attached to the same department of hospital in which we were engaged.

Fomentations were now assiduously applied to the abdomen, from nine till half-past ten a. m. without any relief. The pain from distention of the bladder was becoming more and more severe, and the anxiety and restlessness of the patient increased in the most remarkable manner; whilst the tension of the abdomen and swelling of the pubic region continued to augment more and more. He was now bled to the extent of ℔ii., which produced partial syncope, but even after the lapse of half an hour was followed with no beneficial effect whatever upon the stricture. At half-past eleven three grains of opium were administered, and at midday, warm fomentations to the pubic region were reapplied, and continued for two hours, with similar ineffectual results as before. I now reported the case to Mr. Alcock, the deputy inspector general of hospitals. During the progress of the above treatment, I had frequently attempted to pass both metallic and elastic gum catheters of various sizes, without being able to reach the bladder; and Mr. Alcock, on examining the case, tried the introduction of the smallest sized bougie unsuccessfully. Surgeon Wilkinson was now ordered to superintend the treatment of the case, and we jointly agreed to place the patient immediately in the warm bath. Before placing him into the bath, we administered—antim. potassio-tart. gr. ii., solut. murph. acetatis, ℞ xxx. He remained in the bath one full hour, and was taken out at the end of that time in a complete state of insensibility. Every muscle of the body was apparently in a state of passive relaxation; yet the patient, either by nature or art, had hitherto been unable to pass a single drop of urine. The flaccid state of the muscular system, and the enlarged size of the abdomen, now equally distended from the ensiform cartilage to the pubes, caused the patient much more to resemble a woman in the ninth month of utero gestation, than a man afflicted with simple retention of urine, arising from spasmodic stricture of the urethra. The swelling of the abdomen had apparently increased a hundred per cent., during his stay in the warm bath; but the apparent enlargement was, no doubt, owing more to the passive state of the muscular system than to the augmentation of the quantity of urine, which the kidneys would be able to have secreted in one short hour. The pulse when taken out of the bath was small, wirey, and trembling, and it numbered, on examination, one hundred and thirty in a minute. In this state of matters, all chance of saving the patient by medical means now seemed at an end; and as the necessity of puncturing the bladder at one point or other seemed inevitable, it again became our duty to re-report the case as it now presented itself, to Mr. Alcock, who was still upon the premises. On relating the facts as above, Mr. Alcock re-visited the ward, and immediately determined on puncturing the bladder above the pubes.

The patient was still lying on his bed in a state of insensibility, and as it was now about four p. m., he had passed no urine for a period of about twenty-eight hours. Mr. Alcock, with a small sized trocar, pierced the parietes of the abdomen in the centre of the linea alba, immediately above the pubes, and penetrated the bladder. On withdrawing the trocar, five pints of urine were drawn off by means of the cannula, of a clear aqueous appearance and the distention of the abdomen soon receded to its normal state. After thus evacuating the contents of the bladder, the cannula was immediately withdrawn, and the wound closed with adhesive plaister; neither was it deemed necessary to try to pass a catheter through the urethra into the bladder.

During the operation, which Mr. Alcock performed in the most dexterous manner, the patient was as insensible to pain and the influence of external objects as if he had been under the influence of mesmerism. Ten minutes after the bladder was emptied, he began to talk incoherently and toss his extremities in the most frantic manner in all directions. In a few minutes more he became completely convulsed; his countenance assuming the most daring and furious appearance, whilst he swore most heartily. The ferocity of the countenance, however, after twelve or fifteen minutes, gradually relaxed into a mild sympathetic appearance; and the *convulsions terminated in involuntary discharge of fæces.* It has been truly said that pleasure and pain are relative terms, and that without the occasional visitations of the one, we should be ill able to appreciate the transcendent felicities of the other. In the full period of my professional life I have never seen the truth of this more completely exemplified than I did in this case. No sooner had consciousness returned, than the patient expressed himself as then enjoying the happiest period of his existence, stating his feelings to be equal to all the enjoyments of heaven, at the same time that he thanked us a thousand times with genuine sincerity, and said we had relieved him from the cruelest torments of hell. This felicity, however, at the maximum, became less and less appreciable, and gradually subsided into what may be termed the truly comfortable, until about seven in the evening, when he fell asleep.

Having given the necessary directions, he was left to the enjoyment of repose, and I saw him again at ten o'clock. I was then informed that he had slept calmly for three hours. He awoke whilst I was standing by his bed, and I found him perfectly collected, without pain on pressing the abdomen, with moist skin, pulse weak and wirey, numbering one hundred a minute. He had had no passage, from a laxative glyster, exhibited before seven o'clock, and I administered immediately, for the purpose of acting on the intestinal canal, ol. recini ℥iss. I now left him, and ordered,—℞. antim. potassio-tart. gr. 10; mag. sulph. ℥ii.; aqua tent. ℥viii.; misce et solve, sumat æger cochlea. mag. quaque hora per noctem.

May 7th, 1 A.M.—Has had since I saw him last one copious stool.

7 A.M.—Has had another copious stool; and about one hour ago had made water per urethram to the quantity of ℥xii., felt during the passage of the urine a little scalding in the course of the urethra, and slight pain over the pubic region, which gradually became inappreciable, after a lapse of fifteen minutes. Skin moist, tongue clean, no pain on pressure of the abdomen, pulse one hundred and ten, hard and small, but has passed on the whole a good night, and slept well. I now performed venesection to the quantity of ℥xii., and during the operation the pulse fell to ninety, becoming at the same time more soft and natural. The same saline solution I ordered to be continued, notwithstanding that he had a little retching once or twice during the night from the effects of the medicine.

6 P.M.—Has had two stools during the day, tongue clean, abdomen free from pain, pulse one hundred, but soft.

May 8, 10 A. M.—Pulse eighty, of healthy character, tongue clean, skin moist, makes water naturally when required, but the scalding of the urethra continues on passing urine.—Continue as before.

May 9th, 10 A.M.—Symptoms favourable, pulse seventy-five, continue saline medicine every fourth hour

May 10th, 10 A.M.—Pulse sixty, functions natural. Remit medicine altogether.

May 13th.—Mitchell is now able to work today in the hospital square with the other convalescents.

May 16th.—Continues doing well, the wound in the abdomen not yet cicatrized, but has no inconvenience from it, never passed any urine by it

May 20th.—Wound of the abdomen healed, and the patient fully recovered.

INJURIOUS DYE FOR THE HAIR.—Dr. A. Th. Bruck, of Osnabruck, thinks that a violent ophthalmia, under which a lady of 40 was labouring, might be attributed to a dye which she had used during several years for her hair. It is sold at Cologne under the name of *Poudre d' Italie*, and has been shown, by chemical analysis, to consist of lead and lime.

EXTRACTS FROM FOREIGN JOURNALS.

(From the Berlin, Medicinische Zeitung, for the 'Medical Times.')

GERMAN.—*Epidemic Scarlatina, in the Circle of Pillkallen, in the years* 1841-42.—(DR. ASMUS.)—From July, 1841, until the middle of the winter of 1842, scarlet fever reigned in the above circle in a very strange manner. It was mild on its first commencement—children ran the streets with sore throats and eruptions, without being aware of the fearful disease which had visited them: the disease was often confined to a slight sore throat of an hour's continuance, and no one had perceived its nature, had it not been followed by dropsy or furfuraceous exfoliations. After having observed with attention many hundred cases in several epidemics, I agree with most physicians, that the scarlet eruption is an essential symptom of scarlatina in the greater number of cases, but I cannot entirely allow that it is always so. Some very anxious patients, who considered a trifling and almost momentary difficulty of swallowing of sufficient importance to consult a physician, being advised carefully to observe their skins, they perceived as well as myself only the slightest redness and the conception that scarlet eruption was present, only for an hour, appears to me too arbitrary. In such cases, if an abundant diuresis did not occur as a means of prevention, dropsy as a rule used to follow; and one might, with the highest probability, foretell that leucophlegmatic affections would follow where the eruption appeared but lightly, when otherwise the fever was of any significance.

These mild symptoms in a large number of sick maintained themselves only a short time, and even during this not throughout: here and there, swelling of the tonsils occurred so violently, that it was necessary, in pressing cases, even almost daily, to make deep incisions in the swollen velum and posterior wall of the throat, to prevent suffocation. Now, also, slight symptoms of encephalitis showed themselves, and very young children died after parotitis had devolped itself. This appears to have taken the place of scarlatina in children, for a few weeks or even months; for where a whole family suffered from scarlet fever, the youngest children, as a rule, fell victims to it.

After four weeks, scarlatina continued no longer to disguise its proper symptoms. The eruptive fever became more lively, and symptoms of encephalitis occurred more frequently. Gastric mixed affections were seldom remarked, and in any very apparent gastritic devolopment if any one thought it right to administer an emetic to allay any gastritic symptom, he quickly regretted it, on account of its effects on the brain; so that after an unfavourable experience of the employment of vomits, I abstained from their use during the whole course of the epidemic. This disposition to inflammatory affection of the brain, in the course of this disease, was so great, and all that produced congestion in the head so injurious, that I must deplore having given an emetic in a case of membraneous cynanche. It was a child three years old, which, in my morning visit, after having left it the evening before in a very satisfactory situation, a very cold north-east wind had blown and I found a membraneous cynanche developed. The cough had, according to his parents, commenced about midnight. An emetic now administered did not operate—great anxiety came on—the child became delirious—his reddened eyes almost started from his head—strabismus and convulsions supervened—and the child did not survive the emetic four hours.

After eight weeks the occurring cases were in part newly distinguished by the angina, and these were the most favorable, or the first symptom of scarlatina was sickness, with the perfect possession of the intellect; pain of the head was not long absent, and quickly accompanied with delirium; for the most part (with reddened eyes, outward strabismus, and very contracted pupil) the eruption effloresced; that in very bad cases appeared equally in the first hours of the disease; and with the formation of the scarlet eruption on the skin, to the most intense and extensive scarlet redness, the inflammation of the brain rapidly increased. As the sudden disappearance of the eruption was of great importance, so could one not rejoice upon its continuance: it often remained completely developed until death.—Where medicine did not affect any good, the children died during the height of inflammation, before the symptoms caused by effusion on the brain had made their appearance; I saw effusions only twice in the course of the epidemic.

After a few weeks, although the disease was less frequent, yet it showed itself the more malignant. A sore throat was now a wished-for symptom; every case commenced with cephalitic irritation, which quickly increased to delirium. Should help not be quickly given in this space of time, the persons attacked died immediately. Dropsy after scarlatina, appeared throughout the country. This infectious disease was spread more by the clergy and teachers than from natural causes, in spite of me. Dropsy of the cavities of the brain frequently occurred, and I must most determinately distinguish these from exudation arising during inflammation of the brain. This disease which till now was new to me, appeared in the following manner:—Those individuals affected with irritation of the brain, recovered apparently, got up, felt themselves well, and took their food with appetite; they frequently took cold which, in some cases observed by me, they had anxiously avoided. After five, six, fourteen, or more days, the eyelids first began to swell; they (the sick) had a swollen appearance—slight delirium occurred, but at intervals, and the sickness which had been so long overcome again showed itself. The patients yet went about, did not totter, but felt themselves only very faint; after some time the swelling at length spread itself over the limbs. Delirium and sickness then increased much, and the patients were anxious to remain in bed, because they could not keep up from weakness. Some of the senses were wanting, more especially the sight, with the intellect undisturbed, if the intercurrent phantasies are not considered. If the patient were asked any question, he answered sensibly, but looked in another direction than that from which the question came: one of my patients, a boy of about twelve years of age, answered to my question, "I see nothing at all, but I hear." The patient died with epileptic or eklamptic fits, after the thread-like pulse had long before become imperceptible. One of these cases presented to me an interesting example of the aura epileptica, and epileptic fits with complete possession of the faculties, although the cause of the spasms lay manifestly in the brain (I will not pronounce the spinal marrow at the same time free from effusion). He had epileptic attacks twelve or sixteen times in the twenty-four hours. Its commencement was announced by a creeping in the points of the fingers, which spread by degrees, and terminated in convulsions, from which followed convulsions in other parts of the body, and at length of the whole body, including the muscles of the face; no one who saw the spasms could distinguish them from ordinary epileptic spasms. The patient, a boy of fourteen, had his perfect recollection, and suffered fearfully; he regularly bellowed, and described the spasmodic pain of the muscles as unbearable, so that an unspeakable anguish came on with the aura, before the spasmodic sufferings again returned. I waited for another attack, and as the aura began to appear, I squeezed the wrists powerfully; the convulsions propagated themselves no farther, and the joy to have found the means of preventing such painful spasms was indescribable, not only in the sufferer, but in the bystanders. Epileptic spasms with perfect recollection without the aura, were lately very frequently observed by me. This was a very evil consequence of scarlet fever; for external remedies even blisters applied to the scalp were fruitless. I am unspeakably sorry that I had not employed opium earlier, of which as restraining the secretion of urine, I had ungrounded fear; as many young lives were preserved by it, which must have died in a lamentable manner. Later I employed diuretic remedies—calomel, digitalis, squills, &c; the combination agreed with the stomach, and was always beneficial; at least no more of my patients died.

The elder patients who were attacked, fluctuated to about forty years of age. New born children and those of a few weeks old, were seldom attacked; when they were, they frequently died with swollen parotids, without marked eruptions. However, the eruption was not without examples in new born children. One case occurred to me, which furnished a proof that scarlatina, like small pox, can attack the fœtus in utero. A woman who had already brought forth four children, lost two of her children when she believed she was near her fifth pregnancy. The delivery followed six weeks after the legitimate term, as fixed by her, and she bore a very deformed, badly-nourished child, which showed no signs of (*partus serotinus*) protracted birth; the entire epidermis from head to foot, came off in great patches—that of the hands might have been drawn off like a glove. It was many weeks before the skin, afterwards sown over with pustules, became normal, the child grew moderately, and became quite sound. The mother, æt. 36, had neither sore throat, nor otherwise any symptom of scarlatina, but immediately after delivery, she became hydropic, and recovered by the use of carbonate of ammonia.

As regards the general treatment, leaches, calomel, cold applications to the head, and effusions over the whole body, were the chief means used, and as I have nothing new to communicate, I therefore confine myself to this sketch. I lament that I cannot, from the circle of this year's epidemic, and my collected experience on it, say a word for the carbonate of ammonia, after all the praise which has been bestowed on it by the German, North American, and English physicians. So much as it has been recommended in brain irritation it rendered me no good service, and where it appeared to have been of some benefit, it remains doubtful whether the same end would not have been obtained even without the employment of every medical means. Even in considerable febrile condition, where local considerations did not require any other medicament, as long as the brain remained free, I resolved to the use of cool treatment, without any other medicament. But in one affection, consequent to scarlet fever, and which hitherto has been the terror of the physician, and where only to my knowledge the ammonia can be praised, I can unconditionally, and without fear of contradiction,

recommend it, namely, in the dropsy following scarlet fever, with exception of that of the brain. Neither calomel nor digitalis, squills, or cream of tartar, or the host of other diuretics, can here render that service which the carbonate of ammonia is able to perform, as two drachms to six ounces of water. The carb. of ammonia operates specifically in the dropsy from scarlat na, and in the most desperate cases, where effusion into the chest is not to be mistaken, it even causes recovery, whilst it, like no other medicine, produces activity in the urinary secretion, and thus in a few days causes a decrease of the effusion. Therefore all thanks to the recommender of this distinguished remedy, and I finally remark that I am not inclined to contradict its good effects in the first stages, when any other epidemic is less disposed to inflammation of the brain than this, which now for months has offered itself to my observation.

MEDICAL EDUCATION.

To the Editor of the 'Medical Times.'

Sir.—I perceive, from your journal of the 10th instant, that the subject of medical education has been occupying the attention of the government, and that it is about to be introduced to the notice of the public in the Medical Times.

If Sir J. Graham really does desire to improve the condition of the profession in this country, the means are simple enough. He has only to adopt the same system as that adopted on the continent,—namely, the "concours." This is the only system which can award to industry and talent its just recompense.

Supposing some great work, which required the individuals occupied in it to be possessed of no other qualification than their superior corporeal force, was necessary to be accomplished, and that many more persons than were necessary, presented themselves as candidates for the employment,—what would common sense dictate as the only effectual means of determining upon the most eligible candidates? The answer to this question would be, that the strength of each person must be proved, and that they who possess most ought to be chosen. Any other means than this would not only be considered ineffectual, but unjust. Now, as knowledge is power, ought not precisely the same plan to be employed in the selection of individuals to fill those situations in the profession which require the best abilities and the greatest quantity? Certainly Sir J. Graham, and every other disinterested man would answer in the affirmative. Another question is, are such means employed in choosing dressers, professors, &c.&c.? On the Continent they are, but in England they are not; and hence we are so much behind our Continental brethren, and justly the subject of their ridicule.

As I have not time to enter into this subject fully, I will make only one comparison between the Continental and English method of election. Those young men who perform some of the minor operations in the hospitals, and execute the orders of the surgeons, are called dressers in the English hospitals, and interns in the French ones.

The interns are chosen from the pupils by public examination, which are so conducted that none but the most intelligent and best informed young men can possibly obtain such situations; they are afterwards, I believe, allowed a small gratuity whilst they remain in the hospital and have their education free of expense. Every year they are re-examined, and receive a preferment according to their superiority. Every Englishman who has visited the Continent knows how much these interns are esteemed in their profession, and after they quit the hospitals, their position of intern entitles them to general respect. Now for the dressers; they obtain their situation merely by paying for it. No account is taken of their anatomical or surgical qualification; so that, if any one should be deficient in this respect, so much more is received by the surgeon for introducing a young man into the hospital, to torture and ill-treat the patients,—or, in other words, the charitable object of the institution is sacrificed to the private gain of the surgeon. This young man, in order to have some equivalent for the additic sum of money which his father has paid for him, receives from the surgeon a certificate of his position as dresser; and hence the same irrational means of gaining admission to sick people, which commenced its cruel operation upon the inmates of the hospital, will afterwards extend its baneful influence to all those who are imposed upon by a certificate which has been obtained merely by money.

The same evil exists in the selection of all medical officers, and it is evident that the bad effects of this evil will be increased in proportion to the elevation of the individual who has been thus recommended to the world.

The object of this letter is merely to excite enquiry, for I prefer that those who are employed in legislation for the profession would doubt the truth of my statements and examine and compare for themselves. As in the exact sciences, so in the science of legislation; we can have no truth without searching for it, and that person will generally obtain most, whose search is most diligent and unfettered by partiality, interest or prejudice.

Veritas.

PERISCOPE OF THE WEEK.

Test for the Adulteration of Æthereal Oils with Alcohol.—The best method of testing, according to Borsarelli, is with chloride of calcium Perfectly dry chloride of calcium dissolves in oils containing alcohol, and forms a liquid stratum at the bottom of the vessel; when but little alcohol has been mixed with them, the pieces change, at least their form, but in pure oils the chloride of calcium remains perfectly unaltered. This has been confirmed by Brande on oil of lemons.—

Quesneville's Ferruginous Effervescing Powders.—Under the name of "*poudre pour eau gazeuse ferrée*," Quesneville sells a powder, of which 16 grammes are placed in a vessel full of water, which is then well corked until the whole has dissolved It may be taken as a chalybeate. Quesneville states the powder to consist of 4 drachms sugar, 1 dr. bicitrate of soda, 18 grs. bicarbonate of soda, and 18 grs. double citrate of iron and soda. Breton found it impossible to obtain thealt ter double salt in a fit state for pulverization, and therefore submitted the powder to a more careful examination. He attempted to separate the constituents mechanically, and in this way obtained colourless acid grains, which proved to be tartaric acid, particles of bicarbonate of soda, and a small quantity of transparent pale green granules, which proved to be the protosulphate of iron. In a quantitative analysis, in which the tartaric acid was determined as a lead salt, the iron as oxide, the soda as sulphate, and the loss accounted for as sugar, Breton found Quesneville's powder to consist of 20 parts bicarbonate of soda, 22½ tart. acid, 1 part green vitriol, and 56½ sugar; there is, therefore, an excess of tartaric acid. Water prepared with the powder made according to the above prescription, had quite the taste of Quesneville's. The bicarbonate of soda and the tartaric acid must not be powdered finely, otherwise they act on each other even in the state of powder.

The Microscope's use in Animal and Vegetable Physiology.—By selecting says Mr. Grainger, some of the more simple or cellular plants, where the typical structure is displayed unobscured by the addition of parts which, in the higher classes, renders the task of investigation so much more difficult, the botanist is enabled, with the assistance of the microscope, to demonstrate that tendency to the spiral disposition of the component parts, which so strongly pervades the vegetable kingdom. If, for example, we examine the different species of confervæ, it will be seen that the organic corpuscles are deposited in spirals —A process evidently of the same kind was noticed by Schleiden, and has since been pointed out by Mr. E. Quekett, in the development of the vascular tissue of the higher plants. The latter observer has ascertained that the membranous tube which precedes the vascular tissue becomes charged with innumerable granules, which, after a short time, begin to adhere to the inner surface of the tube, assuming a spiral direction or form, and thus lay the foundation, as it were, for the vascular tissue. Again, if we watch the circulation of the chara, which, as a microscopic object, almost rivals in interest the circulation of the blood, something of the same kind is noticeable; that is to say, the little globules which indicate the currents going on in each cell of this plant, follow in the larger cells a definite spiral direction, so that while the globules describe curved currents, there are intervals, called by Dutrochet lines of repose, where no motion takes place. In these instances we have an opportunity of perceiving, in its simplest but most evident manifestation, that spiral form which is so eminently displayed in the whole vegetable kingdom.—And here I would remark, that one of the most important principles established by modern research is, that the anatomist, in determining the fundamental character of any organ, must seek for it in the lower forms of organic beings, where the typical structure is displayed in all its simplicity.—Another important addition to vegetable anatomy was the discovery, by Schultz, of the vessels by which the circulation of the elaborated sap, or latex, is accomplished. Previous to these researches nothing could be more unsatisfactory than our knowledge respecting the channel by which that fluid which is to the plant what the arterial blood is to the animal, was carried to the organs which it is designed to nourish. The existence and action of these vital vessels, as they were called by Schultz, have been almost universally admitted; there are, however, some careful microscopic observers who have not been able to satisfy themselves that a true circulation does, in reality, go on in the vessels we are describing. One gentleman possessing a very superior instrument, has repeatedly sought for the currents described, but so long as his observation was confined to the living plant in an unmutilated condition, no motion could be seen; but on making an incision, movements, which were attributed to the escape of the fluids, were observed. Without dwelling further on this point, I would only remark, what is familiar to many who are present, that motions are occasionally seen in fluids which have been mistaken for vital phenomena, although they, in reality depend on physical causes, such as those seen in the red particles when a drop of blood is placed in the field of the microscope, on in the capillary vessels of the frog's foot when severed from the body. —I have now to allude to a series of investigations which have thrown anew and unexpected light on some of the most important laws which regulate the growth or fomation of organized structures. I refer to the natomy and physiology of cells. Although so much has been written upon this subject, brief notice of the discoveries of Schleiden nd Schwann may, perhaps, be permitted on his occasion. The first great truth which tese investigations

have revealed is, that although nature displays infinite variety in the secondary formations of animals and vegetables, yet that in the primary development of the several organs, one form alone, that of a nucleated cell, is observed. The mode of origin of this primordial cell appears to be as follows: the minute granules existing in the primitive plastic, but as yet unformed substance, aggregate together, and so form a small and usually disc-shaped body, which, being the rudiment or origin of the future cell, was called by Schleiden the *cytoblast* or cell-germ, though the term of nucleus, first given to this body by our distinguished countryman, Dr. Robert Brown, is still very generally retained. According to Schleiden, it is doubtful if the cytoblast is in reality the true germ of the cell; for he remarks, that in the cytoblast itself a minute sharply-defined object, presenting the appearance of a thick ring, or thick-walled hollow globule, is observed, which, forming even earlier than the nucleus is called the *nucleolus*. From the surface of the cytoblast there rises subsequently a thin transparent vesicle; and this it is which constitutes the walls of the cell. The celebrated German anatomist, Schwann, has demonstrated that the same identical phenomena which thus occur in the vegetable are also exhibited in the animal kingdom; and thus we learn, that whether a corpuscle of blood, a fibre of muscle, a filament of nerve, or a vessel, is destined to be formed, the foundation of each is a cell containing a nucleus, which, undergoing a series of transformations, may be ultimately converted first into a tube and then into a fibre. This is a brief account of one of the most brilliant discoveries which, perhaps, has ever been made in connexion with the science of organization. The great principles it establishes respecting the formation of animal and vegetable tissues have been universally adopted, although some modifications, and those not unimportant ones, have been introduced by other observers into the theory as originally announced by Schleiden and Schwann. Those physiologists supposed that the nucleus or cytoblast, having performed what they conceived to be its specific office—the formation, namely, of the cell—was cast off as useless, and absorbed. Further inquiries, both in Germany and England, have shown, however, that the nucleus is a much more important organ than was originally imagined. Thus Rosenthal contends that the nuclei serve to the reproduction of the organ tissues, by becoming elongated into fibres; and Reichert, although he condemns this theory as hypothetical, conceives that Rosenthal's inquiries have shown that the nucleus does not disappear in the manner stated by Schwann. It is, however, in this country especially, that the importance of the cytoblast has been shown by Dr. Martin Barry. This distinguished observer contends, that instead of being removed after having formed the parent cell, the nucleus becomes the source of new cells; and as it is capable of dividing or multiplying itself, and of thus giving origin to objects endowed with the same properties as itself, the nucleus possesses in this kind of vegetative growth an almost illimitable power of increase. Without entering into the merits of this question, I may be allowed to point out, that although the power possessed by the primary cells, and by the tubes proceeding from them, of absorbing new matter and depositing this in their interior, was known to Schleiden and Schwann, as, for instance, in the formation of the spiral vessel of the plant, and of the muscular fibre in the animal; yet to Dr. Barry belongs the great merit of fixing the attention of physiologists on one of the most important points connected with the history of cells, the independent power, namely, in virtue of which they may increase almost *ad infinitum*. It is this endowment which is more particularly interesting to the physiologist, and to the pathologist, as it is calculated to explain many of the phenomena connected with nutrition and secretion, as well as the growth of carcinomatous and other tumours. Strange as it may appear, the new being or embryo, like all its individual parts, springs from a cell, or, more correctly, from its nucleus, called the germinal vesicle, or, from its discoverer, the vesicle of Purkinje. The admirable investigations of Dr. Barry, have established, among so many other valuable results, the fact that by a process precisely the same as that described as taking place in the nucleus of the cell, the minute object discovered by Wagner, and called the germinal spot, gives origin to incipient cells, which fill the whole of the interior of the germinal vesicles. Ultimately two of these cells enlarging constitute the true germ, and then each giving origin to two other cells, the number becomes 4, 8, and so on, increasing in the ratio of geometrical progression.

Rubeola.—The cause of rubeola, says Mr. Wilson, is a special contagion, probably originating in the association of a number of individuals under hygienic conditions unfavorable to health, and propagated to the present hour by generation of the morbid poison in the system of those affected by the disease. Like other contagions it is neutralized, or rendered active, by states of the atmosphere, being increased by cold and dampness of the atmosphere, and diminished by the opposite conditions, heat and dryness. Measles prevail consequently during the autumnal, winter, and spring months of the year, and principally in the former and latter, the dryness of the atmosphere which accompanies the sharp frosts of winter being unfavourable to its transmission. Certain states of the system are favourable to the diffusion of rubeola, as, for example, the presence of inflammation of the mucous membrane of the air-passages; indeed, catarrh or cough may be regarded as indicating a morbillous constitution.—The infection of rubeola is a fact too well known to need any instances in proof, and the infecting distance would appear to be considerable. The period during which infection is possible is difficult to determine, but for the sake of security it is necessary to secude the patient for at least three or four weeks. It may be as well to remember also, that subjection to an attack of this fever affords only partial security against its subsequent invasion: persons have suffered from measles as many as three or four times, and have still remained liable to its attack. The infectious nature of the fever is also exhibited in its epidemic prevalence. The contagion of rubeola has been put to experimental proof by inoculating a sound person with the blood or fluids of the diseased. Dr. Home, Cullen, Speranza, and others, succeeded in producing an attack of measles in this manner, by inoculating with blood: Dr. Monro effected the same object by means of the tears and saliva; and Willan remarks that the inoculation of the fluid of some accidental vesicles developed on the skin during rubeola communicated the disease, and was the means of transmitting it, subsequently, by infection to several other children. After inoculation the symptoms of the fever make their appearence in the course of a few days. At one time it was thought that the symptoms of the inoculated disease were milder than the sporadic form, and it was proposed to employ inoculation, as in small-pox, for the purpose of inducing a mitigated affection. The results of the experiments in the above cases were not, however, favourable to this opinion, and all expectation of benefit from such a mode of procedure has been relinquished.

On Mattico as a Styptic.—The mattico (says Dr. W. Munro,) has been very often used by me in the Dundee Infirmary, as an external styptic; but I have not as yet used it internally. It has been very often used to stop the bleeding from leech-bites, and uniformly with the most decided success. Leeches were applied, by his own desire, inside the nostrils, to our house surgeon, a stout florid young man, with head symptoms in fever. The bleeding, which was profuse, could not be stopped by cold applications to the head, plugging, &c.; but the mastico, in leaf, applied over the bites, and pressed on with the point of the finger, proved immediately successful. The application of the leaf caused increased heat and throbbing for five minutes, when all unpleasant symptoms went off. The mattico was applied to a man with a wound of the right temple, in whom a considerable branch of the temporal artery had been divided; the wound was dressed, and a compress and bandage applied, but still the blood burst out. Cold water was several times had recourse to, still the bleeding returned after a while; at last the mattico was used. I stuffed the wound with the powder, but found that it was washed away from the wound in the vessel; I then pressed in several pieces of the leaves, holding them firmly for some time with the point of the finger; and the result was, that we had no more hæmorrhage. We had a somewhat similar case of a man with a wound of a branch of the palmer artery, which resisted graduated compression and bandages, and in which the mattico was used with the best success.

Internal Employment of Nitrate of Silver.—Dr. Fisher, of Tambach, found fused nitrate of silver efficacious in cases of grastralgia aring from purely dynamic affections of the nerves of the stomach, especially in females.—He gives this salt in the dose of four or five milligrammes, either in pills or draught. He prescribed it without any advantage in the cases of gastralgia caused by hemorrhoidal diathesis, and become independent of the latter.

Injections of Infusion of Cubebs Vaginitis.—A woman, aged 28 years, was admitted to the *Hopital de la Pitie*, on the 5th of April, 1842, to be treated for intense urethro-vaginitis, which had lasted nine months, accompanied by violent pain and abundant flooding. This woman had been subjected to several modes of treatment, without success. From the time of her admission, she was submitted to injections, repeated six times a day, of 30 grammes of cubebs in a quart of water. At the end of two days, the flooding had diminished, but the inflammation of the urethra remaining, cubebs were administered in the dose of 3 grammes every hour. On the 17th of April, the patient was completely cured; there was no longer either pain or flooding. Thus, in twelve days, one of the most rebellious of diseases, of nine months' standing, was cured. M. Piorry states, that he has, in numerous instances, very successfully employed cubebs in inflammation of the canal of the ureter, or of the vagina. Setting out with the principle that cubebs act only when put in contact with the diseased mucus membrane, by means of the urine, when the uretur is affected

or by means of injections, for the vagina, M. Piorry administers this medicine internally, or by way of injection, at very short intervals.

ADULTERATION OF TOBACCO.—"Bengal safflower is preferred," says Mr. C. Watt in the Chemist, "at the price of twenty-eight shillings per cwt. It is infused in a weak solution of potassa or ammonia, the former giving a dark brown color resembling 'Shag,' and the latter a light brown, approaching in appearance to 'Returns.' Considerable loss, however, having occurred from the vegetable matter dissolved out, an improvement has lately been introduced; the safflower, having been moistened, is placed in trays in a cask, into which the ammoniacal gas is allowed to pass. By this process, the weight is increased, whereas, after the earlier methods of preparing it, a loss of one half was sustained. Having thus explained to Mr. Bremner the particulars of a process which, doubtless, he well knew before, I will add the price at which it has been sold, viz., 1s. per lb., and I beg to enclose (in confidence) the name of the firm by whom the tobacconists have been supplied with this adulteration, one of whom, when the new Act was introduced, pathetically exclaimed, 'Behold another fortune lost!' I am in possession of samples, and I know that orders for a ton were obtained in the course of a month, by a travel'er on his journey. In the case of the ammoniacal preparation, a ton would afford a profit of about £84.—Perhaps this will explain the ticketting of tobacco at 2s. 6d. per lb, the duty alone being above 3s. It may not be amiss to inform the public, that the substitutes for tobacco are always in shorter threads than genuine tobacco. The vegetable used for the adulteration of tobacco, are far too numerous to be mentioned here."

CHILBLAINS IN CHILDREN.—Dr. Stober, Professor to the Faculty of Medicine at Strasburg, employs when the chilblain is recent, of a deep red, and not ulcerated, cataplasms of linseed meal, or bread and water, surrounded with sugar of lead. The cataplasm is kept on all night; in the morning it is removed, bathing the foot in warm water. Under the influence of this very simple treatment, chilblains are often cured in three or four nights.—Where chilblains are old, and where ulceration is threatened, Dr. Stober bathes the affected parts with tincture of iodine once in every twenty-four hours, and that for several days in succession; or a similar unction may be made with a mixture of equal parts of dilute nitric acid, and distilled cinnamon water, applied once a day with a feather.—

As regards ulcerated chilblains, Dr. Stobler, to hasten cicatrization, has recourse to stimulants, and, in preference to binoxide of mercury (red precipitate) incorporated with lead.

POMMADE FOR ATONIC ULCERS OF THE LEGS.—℞ Dry Tannate of Lead, 30 gram.; Lard, 8 ditto—M. The pommade is spread on pledgets of cotton wadding, and is applied to the ulcers with them.—This medicine has succeeded where others have failed.

TESTIMONIAL.—A meeting was held by the students of the Charing Cross Medical College, on Saturday, the 17th inst., for the purpose of presenting to Edwin Canton, Esq., an elegant snuff box bearing the following inscription:—"Presented by the Students of Charing Cross Medical College to Edwin Canton, Esq., M. R. C. S., Demonstrator of Anatomy, as a testimony of their grateful sense of his unwearied exertions in the promotion of their studies."

ROYAL COLLEGE OF SURGEONS IN LONDON.

List of gentlemen admitted members on Friday, December 16th, 1842:—

M. Ward, F. J. Osborne, C. P. Daniell, W. T. Edwards, W. S. Watson, A. Stephens, J. Hancock, P. Wallis, R. Baker, W. Miner, P. Benson, A. King, H. R. Daniell, T. W. Fothergill, F. Hawthorn.

Admitted Monday, Dec. 19th:—

H. Hadlow, G. Newstead, H. Carless, J. Lugg, T. Howell, J. C. Blanshard, T. Holman, J. P. Oates, H. W. Best, G. Pink, T. Lyle, F. B. Hunt, T. Good, R. Cammack.

ADVERTISEMENTS.

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SUMMARY.

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

Delivered by C. J. B. WILLIAMS, M.D., F.R.S., Professor of the Practice of Medicine, and of Clinical Medicine, at University College

GENTLEMEN.—Another class of agents, useful in slight inflammation are *Derivatives*, which act as we have before noticed by draining the blood from the vessels affected to other vessels at a distance from them. Thus in slight affections of the head, pediluvia are frequently beneficial—they cause determination to the feet, and thus relieve the head. The application of warm poultices is also of service, because the heat which they maintain increases the passage of blood through the obstructed vessels. On the same principle fomentations are useful in some internal complaints, as peritonitis, —hot applications relieve the tension of the parts, and thus diminish the irritation. *Evacuants* act by drawing off the blood to other parts, by causing the actual removal of some of the fluids. Where nervous irritation is a leading feature, another series of remedies may be called into our assistance, viz., counter-irritants, which differ from derivants, inasmuch as the latter seem to act upon the vessels only, whereas the former act upon the *nerves* also; thus strong heat operates as a counter-irritant—sinapisms, blisters, turpentine, &c., act in a similar way. These are chiefly for cases where there is great pain and little vascular excitement, viz., spasms, colic, nausea, inflammatory dyspepsia, &c. These remedies, however, must not be applied too early if much inflammation is present; nor yet much counter-irritation be applied too *near* to an inflamed part, or the mischief will only be increased. If they are adopted when there is great vascular excitement, inflammatory fever is very likely to be induced—blisters applied for two or three hours have an evacuant as well as rubefacient effect. Opium is sometimes effectual in putting a stop to inflammation by paralysing nervous agency, and thus destroying the influence it has in the production of the inflammatory process, and cuts off the connection between the local inflammation and the system. Narcotics, of which you know opium is the representative, should always be preceded by some degree of depletion, because this class of agents at first *excites* the action of the heart, and also tends to arrest the secretions. They should be combined with mercury, antimony, or ipecacuanha, because the tendency of these is to *increase* the secretions: opium is often useful in putting a stop to slight catarrhal inflammations; henbane, camphor, &c., are in most cases decidedly inferior to opium. When, in addition to local mischief there is inflammatory *fever* present, we have to treat the whole vascular system, and through it all the secretions. It is clear that mere local treatment can be of little avail, so long as the powerful vis a tergo is in operation. We must regard all the parts as in a state of high pressure, and the remedies to which I have been alluding would tend only to aggravate the symptoms, while the fever continues; for the local applications would act as irritants. Derivants can do little good—counter-irritants are hurtful, and narcotics also, because they cannot control the action of the heart, but rather increase it. The first measure, then, in this case, must be to withdraw the stimulus of the blood, because it is the blood itself that stimulates; we must, therefore, bleed, and give such medicines as shall further relieve the vessels by augmenting the secretions, and by diminishing their tonicity: for these two purposes,—mercury and antimony appear to be eminently adapted. All these measures must be employed in proportion to the importance of the part affected, and in proportion to the amount of vascular fulness present. In some inflammations, such as parotitis and tonsillitis, &c., resolution may be effected generally without the necessity of much depletion. Below the age of four years, the only way in which we can abstract blood safely is by leeches. Bloodletting is sure to produce an influence, if it is carried far enough. It is much more difficult to cause syncope in violent inflammatory fever than in persons who are in possession of full health. There is, consequently, said to be a great "*tolerance*" of bloodletting in fever accompanying inflammation; the heart and arteries are able to lose a large quantity of blood, and yet continue to act as before. For example—a strong male, in good health may be able to bear, without fainting, the loss of about sixteen ounces, while in cases of acute pleurisy or arachnitis, a patient may require the abstraction of from *thirty* to *forty* ounces, to induce syncope; in pneumonia about thirty ounces may be borne; in bronchitis, erysipelas, &c., from sixteen upward; and in congestive apoplexy upwards of *forty* ounces have been drawn; in cases of continued fever and anæmia, the tolerance of bloodletting is considerably diminished. Our object in bleeding is to produce a *lasting* impression upon the inflammation, with the loss of as little blood as possible; in the early stage the vessels may regain their healthy state without any reaction occurring. In cases where we wish to produce a strong and decided effect, we must act upon the brain at the same time as the heart, and should, therefore, place the patient in the erect position, and bleed from a large orifice, or even from an orifice in each arm at once. We must continue the bleeding either until the pulse is softened or until some of the leading symptoms are relieved. If the disease is recent, the sudden removal of the tension will probably be successful, and effect a cure. In mere nervous syncope the pulse speedily regains its strength. We may ask how general bleeding acts upon local inflammation? We reduce the action of the heart and also alter the character of the blood; it diminishes the fibrin and red particles more than the serum. Haller observed, that as the blood was drawn from the whole system, the blood in the inflamed part began to flow more rapidly, and sometimes in an opposite direction. The alteration effected will be in proportion to the recent existence of the inflammation. The pressure is removed from the oppressed vessels, and the evil thereby reduced. If, however, the local inflammation is extensive, and has involved the structure of the vessels, so that they will not easily recontract; it is not desirable to produce so rapid an impression, but a more slow and permanent one is to be attempted: for when inflammation has existed for some hours, or where the habit of the patient is very plethoric, we must obtain *more* blood; and to effect this, we must bleed from a *small* orifice, and keep the body in an easy posture, so that no immediate impression may be produced upon the brain. In nervous subjects, the influence produced upon the heart by the brain is very rapid, so that if there is so much sthenic inflammation present as to require the abstraction of a considerable quantity of blood, it is obvious that we must take all possible precautions to avoid the supervention of syncope; for I presume you are all aware that, when syncope occurs, the blood ceases to flow: we must, therefore, place the patient in the horizontal position, and allow the blood to escape as gradually as we are able. Suppose, for a moment, that violent inflammation has existed for several hours, and you proceed to bleed the patient from a large opening and in the erect posture, and fainting is instantly produced; what will be the consequence? It will be this—the very small amount of blood obtained will not remove, in any degree, the local inflammation; but as soon as the patient has rested for a short time, reaction will be effected, and the whole inflammatory process will proceed with all its previous energy. You see, therefore, the importance of bearing these distinctions carefully in your minds. But you will find that bloodletting *alone*, however discreetly it may be managed, will not be a sufficient remedy in cases of inflammation, and will require to be followed up by other means; for after even ample venesection there may remain enough nervous irritation to induce inflammatory fever, although the local inflammation may have been at first diminished; then this fever, reacting upon the *little* local inflammation left behind, may speedily re-excite it, and matters soon return just to the place in which they were at the commencement; so that, after venesection, it becomes our duty to adopt measures that shall allay the nervous irritation, and perhaps the very best agent we can employ for this purpose immediately after bloodletting, is *opium*. But supposing that the nervous irritation is of slight extent, so as not to demand special attention, and we find in it still considerable *vascular* excitement remaining, we must have recourse to *local* bloodletting as well as general. This local depletion produces a much greater influence upon the *heart* than on the *brain*, and therefore is particularly adapted to the circumstances we are supposing, viz., cases where inflammation has existed for a considerable period. It is especially indicated, also, in inflammation affecting membranes, and more decidedly so if the membranes are near to the *surface* of the body as in pleurisy, peritonitis, pericarditis, and the like. Local depletion has some beneficial effect in cases of bronchitis, also in inflammation of the mucous membrane of the intestines. I need scarcely tell you, that the ordinary mode of local depletion is the application of leeches in numbers regulated by circumstances; another method is cupping, which, in many instances, is invaluable, and far superior to leeches. Local bleeding has much less effect on inflammation seated in the parenchyma of organs, because the vessels of the organ are less connected with the external surface to which leeches or cupping would be applied. For example—in a case of deep seated pneumonia,—or, indeed, in any pneumonia whatever,—the application of leeches is, I believe, of little or no use. Again, in inflammation existing within the head, I think leeches are of comparatively little benefit. In old age, leeches are particularly useful because the vessels having lost their elasticity are not so easily affected by *general* bloodletting. We have next to consider more particularly some of the principal *internal remedies* in inflammation—for we have other means of evacuating besides bloodletting, and none are so effectual for this purpose as *purgatives*, except in cases where violent inflammation is seated in the mucous membrane of the alimentary canal, in which case you can readily perceive much caution is requisite. The influence that can be produced upon the system by means of purgatives is very great; it is no difficult matter even to cause *syncope* by their administration, although such a result is rarely advisable. The brisk purgatives are the most useful, such as calomel and jalap; the neutral salts are also serviceable; these remedies are, of course, not to be depended upon alone; when there is much inflam-

mation, it is better to repeat bloodletting, if it can be done. In some inflammatory affections in children, *purging* is the *best* remedy. Diuretics (which are also, to a certain extent, evacuants) are of little or no use in cases of active inflammation: to depend upon them would be like blowing gently upon a red hot iron.

One of the great antiphlogistic agents, and one that perhaps most nearly resembles bloodletting, is *antimony*. It must not, however, supersede bloodletting, but it is of the greatest service either with or after it. It has a decided tendency to maintain the reduction of the arterial action which venesection has produced; it diminishes most perceptibly the *hardness* of the pulse. In *slight* cases of inflammation, James' Powder will answer every purpose; but in more active cases the *tartar emetic* (or potassio-tartrate of antimony) is preferable; sometimes it produces purging, and generally vomiting at first, if given in anything like full doses. It is found most beneficial as an antiphlogistic, when it does *not* produce discharges of any kind. It seems to be of special efficacy in *pulmonary* inflammations; its mode of operation has been much disputed. Some talk about it absorbing the power of inflammation, and say, that its emetic action takes place when the inflammation is reduced; but then patients will continue to take it when inflammation is diminished with less sickness than when the inflammation was *commencing*. Laennec thought it acted as a counter-irritant, by setting up an amount of irritation in the stomach; he also thought that it operated as a sorbefacient. It acts both as a counter-irritant and absorbent. Small doses are diaphoretic, without *increasing* the action of the *heart*. How then is it diaphoretic? It has some property of *relaxing* the vessels, it diminishes the tonicity of the vessels. Antimony is of most service in the early stages of inflammation, when the arterial tension is greatest; it is of no use when solid effusion has taken place. It is less useful in inflammation of simple or serous membranes—its efficacy may be said to be in proportion to the greater vascularity of the inflamed part. It is very beneficial in inflammation of the testicles, lungs, &c. It is certainly useful in slight cases of inflammation of the mucous membrane of the alimentary canal. The dose, as an antiphlogistic, is in most cases from the quarter of a grain to two grains. But some employ it in very much larger quantities: for instance, the Italians recommend doses of ten grains two or three times a day.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM.

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[illegible]

GENTLEMEN.—I have now to bring before you the diseases of the cerebral system; the first part of the subject of the nervous diseases in relation to actual diseases. The two former lectures were confined to what may be considered preliminary to that which ought to form the chief subject of my observations, viz., the physiology of the nervous system. I now introduce to you the subject of the diseases of that system themselves; but before I do this, I must call your attention to one or two points of some importance. It is quite obvious to us all that the nervous system is nothing without the circulating system. Now I shall say two words, first of all, with regard to the circulating system, and then two words more respecting that circulation with the nervous system. I need hardly explain to you the organs of circulation, which you must be all well acquainted with, but I do wish to make one observation or two in the first place: you hear of the veins, the heart, and the arteries. Now I take the heart and the arteries to be merely machinery; the object of which machinery is to produce the circulation through the capillary vessels. The chief part, in fact I might almost say the only part, of an effective circulation is the circulation of the capillary system. The blood is received from the capillary system by the veins. The veins may be considered as so many ducts leading the blood back from the part that had been supplied, to the heart. The heart is the organ of the motion of the blood, and it may be regarded simply as the instrument of motion, and the arteries must be considered as merely tubes carrying the blood to the parts required to be nourished. Now, the observation I have to make is this:—that all these are mere machinery; that the veins are tubes and the heart is the instrument of propulsion, and that the arteries are mere tubes. I am not aware of any change in the blood produced either in the veins, in the heart, or in the arteries. If, then, no change is produced in the blood, in this part of the vascular system, it is quite plain that all that is really circulation, all that is really function, with regard to the blood itself, is performed in the capillary system. The arteries divide, and divide again, into minuter and minuter branches. These minute branches divide into other vessels, which I have ventured to call channels, rather than vessels, because I extremely doubt whether they possess any vascular coat at all; indeed, when I investigate this subject, I am the more inclined to believe that they are mere channels formed into the interstices of the substance of the lungs, rather than that they possess any coats, as in the larger division of the arteries. I think I said this ten years ago—and the subject is still, a matter of doubt and a matter of uncertainty. But, as far as my opinion is concerned, I say that it is much more probable that the capillary vessels are mere channels, than that they are actual tubes. As to these channels, they are various in form; but, generally speaking, they consist of channels which unite and then divide, and then unite and then divide, and then unite and divide again through the whole substance, and of this the body is nourished. They are uniform in size, and what is important to observe is, when the arteries become smaller and smaller, and the veins become larger and larger. The arteries subdivide continually, and the veins unite continually. The arteries subdivide, and become smaller; the veins unite and become larger; the capillary vessels unite, and divide again and again, forming, as it were, a net-work of channels, rather than vessels; they maintain the same diameter. What is the object of all this? I believe that the simple object is—what I would venture to call one of irrigation; the blood runs through all the organs of the body; and they derive from it, thereby, that nutriment they require to enable them to undergo changes, and to be nourished. Now, with regard to the capillary vessels in the lungs, I need hardly tell you that their object is to expose the blood to the atmospheric air, in order that certain portions may be taken up, and that other portions may be given out, in the process of respiration. We see, therefore, that the object of this irrigation—this true circulation—is to nourish all parts of the body, to give increased strength to the parts, by healthy secretions, and to do everything that is required for the nourishment of the system. This, then, is the first word I wanted to say on the subject of circulation. I believe the veins, heart, and arteries, to be mere machinery—the whole and sole object of which is, to irrigate the different organs of the body, which is done through the medium of the capillary vessels. But, there is another view of the subject; it is quite plain that things are carried into the blood and out of the blood. Now the blood may be viewed as situated between the organs of digestion—that is to say, the stomach and the small intestines, and the organs of excretion. From the stomach and small intestines, the particles are taken up to form chyme, and then to form blood, the blood is thus formed. But there are organs that, like the kidneys, secrete, and it is essential that the secretions should be perfect in these places. What, then, do you observe? You find the blood circulating in every organ of the animal body. I now wish you to observe that the blood is situated between the organs of ingestion and digestion—between the stomach, the small intestines, and the lungs, and the other organs: those of secretion, the liver, and the kidneys. Why do I mention this subject just now?—just to show you, that if the small intestines do not perform their duty, the functions of the blood cannot be performed; and if the liver and the kidneys do not perform their office, the blood cannot be purified; it cannot be deprived of those particles which, if they remain in the blood, remain as poisons in the blood. I have had to notice this fact in a medical as well as a practical point of view, to show that there is great danger if the kidneys do not perform their office. You have no doubt seen, within the walls of this hospital, cases where the kidneys have not performed their office. Where the secretions are of such a nature as to be charged with albumen, and the blood cannot perform its office, what happens? There is a danger of this kind, that you will have an attack of apoplexy, or palsy, or epilepsy, from this superficial cause. Now, I have not another word to say on this subject, for it does not belong to my department, except inasmuch as it is necessary to show how the well-being of the nervous system depends on the well-being of every other part of the body, and that the well-being of the nervous system depends on the well-being of the blood.

We now then proceed to the subject of the nervous system and especially to circulation. Every part of the nervous system—the brain and the spinal marrow, and the ganglionic system is pervaded by the blood. It may be said, indeed, that the animal frame consists of a nervous system, and a vascular system, to which must be added a muscular system, and if we have these things combined together, we may take away every other part of the skeleton, the osseous system, and everything but the nervous system, the vascular system, and the muscular system. Then, as I said before, every part of the nervous system must be supplied with blood; it must be supplied with its due quantity of blood that, blood must press upon the body with a certain degree of force, and must be perfect. If there be the slightest change in any part—the slightest defect in any of this three particulars, you will have disease, and, very strange to say, you will have similar diseases from contrary states of these things. Taking first the pressure of the blood; now, it is difficult to increase the pressure of the blood upon the brain and the spinal marrow, but there is a mode of increasing the pressure, and that is by preventing the blood from flowing from those organs. Now it so happens that in every case I have heard of blood so prevented from flowing from the brain, it has taken place in a disordered circulation. If you close the larynx—epilepsy closes the larynx—while convulsions are seen in children. Whenever the larynx is closed, you have invariably the blood prevented from returning from the brain, and the consequence is, you have the pure state of apoplexy, owing to there being too much blood in the brain. But you find this state of things only continues for a certain length of time. How long does it continue? Only until nature has had an opportunity of restoring the blood to its normal quantity, leaving neither a greater part nor too little. Suppose instead of having too much you have too little: suppose that instead of having it sent with a proper degree of force, you have it sent with too small a degree of force to the brain, what is the consequence? The phenomena are very similar. Look at the case of common syncope. I recollect a most interesting case of this kind, which had like to have proved fatal. It was a case in which the patient had been bled to a state of syncope, in the upright position. The blood was taken from the patient in the upright position, for the person who performed the operation was not aware of the importance of having the patient in an horizontal position. Now what was the consequence? The patient fell first into a state of delirium, and afterwards into a state of coma. But that was not all; he fell into another state—in fact, he was affected with violent convulsions. At present I wish to keep your attention to the mere brain, the central part of the cerebral system. I have just informed you that we had first a state of delirium, and then a state of coma. The syncope was followed by a state of coma. Now then you have these facts to bear in your minds:—

A state of coma produced by an over quantity of pressure of the blood, and the same state in an undue pressure of blood. The same thing is produced both ways. Now I have told you just now that an over pressure of blood would produce similar effects on the other parts of the nervous system as the undue pressure of the blood, but I am not prepared to give you any precise case in which convulsion is produced by the undue pressure on the spinal marrow. We know that undue pressure on the spinal marrow will produce convulsions, but I have no facts at present, and as my object is to bring only the truth before you, if I have no facts ready to adduce I do not adduce any. Now then in the case which I have mentioned we find the patient had too much blood taken from the system. He was bled to a state approaching syncope, in an upright position, and in that case there was slight delirium, then coma, and then convulsions. A friend of mine residing at Bridgwater, was called to see a physician of that place, who was attending a gentleman who had been bled in a recumbent position: and now let me tell you that no patient should ever be bled in a recumbent position: I say this because you cannot tell beforehand what the system will bear, and what the disease may require. You may guess it, but you cannot positively tell, and it may happen that you may guess wrongly; you may take fifteen or twenty-five ounces, and if you take twenty-five you may take too much, and if you take fifteen you may take too little, but if you take the patient upright, and bleed him to syncope, you may obtain the proper quantity. Well, this gentleman was bled in the horizontal position; there is no doubt too much blood was taken from him, for he fainted. I think there is danger of the patient fainting in the horizontal position. He fainted, but the hemorrhage did not subside, nor could it, because he could not be placed in the proper position; and that gentleman fell into most violent convulsions. You are aware from what I have before stated, that disease of the brain cannot produce convulsions. Now this case is one in point, to shew that too little blood in the spinal marrow will produce convulsions. Now, why may that not be the case in disease of the brain? In the first place I have told you that no disease of the brain can produce convulsions. Now I come to the spinal marrow. You may not be aware how sheep are killed. I can tell you the process. I have been to see animals killed in various modes, without being the means of ever inflicting pain or death, or any suffering, and yet I have seen the physiological effect produced. The butcher generally divides the blood vessels, and then turns the knife, and divides the spinal marrow, and so the animal bleeds to death. In so bleeding to death, Gentlemen, it always dies in violent convulsions. I went on one occasion, and desired the butcher first to kill the animal by dividing the spinal marrow; I had the head severed entirely from the body, all but the skin, and then the animal was allowed to bleed to death. You see very clearly that the head had no influence over the muscular system, because it was severed from the body—then the question came to be whether there were or not in this case to be convulsions. I watched the flow of blood for a considerable time, and found that no convulsions occurred; but the animal at length became violently convulsed, and then it was obvious that this convulsion was a spinal marrow convulsion, and that it arose from too little blood in the spinal marrow. I conclude, then, that not only will too much blood, but too little blood, will produce convulsions, and it proves also, at the same time, that its causes are very similar, in so far as regards the blood, its quantity, and its pressure. I wish to say one or two words respecting the quantity of the blood. Whenever the blood is not properly formed—whenever the stomach and the intestines do not do their duty, it is quite plain that the chyle that ought to form the blood, cannot be formed. I believe this is the case in many cases of amenorrhœa in one half of the female sex, and this also causes chlorosis and other phenomena in children and grown-up persons, especially in the female sex, about the age of 16, 18, or 20. The blood is not formed. Why is it not formed? Because the organs of deglutition, the stomach, and the bowels do not perform their functions. Under these circumstances the patient—I was going to say the little patient, because I have in my eye a little patient—is in danger of convulsions. I have a patient in Bouverie Street (where I called in my way here), the daughter of Mr. ———, one of the most interesting little girls I have seen. This little patient is about the colour of that cloth—perfectly green. She lost her breath, and became affected with convulsive movements of the left side, the day after that she had violent convulsions, and the day after another convulsion. There is no reason to suppose the convulsion was produced from any other cause. I do not mean to say that it might not depend on the state of the bowels, the diet, or the food; what I mean to say, is—that there was simultaneously a state of amenorrhœa with the convulsion; whether that convulsion arose from a state of amenorrhœa, I am not prepared to say, but the state of amenorrhœa was no protection against the convulsion. You generally find, that in the mind of the public generally, fits of convulsion, and blood-letting, are always associated; and you find, in practice, that the first thing that happens to you, when you go to see a patient affected with convulsions, is, that you are called upon to let blood; the parent will say to the medical man, "the child ought to be bled." This is the common feeling. Now, how is this to be explained? The convulsions arise from a state of amenorrhœa,—that state of amenorrhœa but from an imperfect formation of blood. But I should tell you that the little child I have been alluding to, had not lost any blood nor breath; and the reason why the blood was not formed, seems to me to be a defective action of the smaller intestines. I have one observation more, and it is one that I have, perhaps, made already. You are aware of a disease, called Bright's kidney, because that was the name of the physician who first detected it. In this disease, the urine is loaded with albumen. My object in bringing forward this fact is to shew, that whenever you have the urine loaded with albumen, it is not only a fatal disease, because the kidney is affected, but the patient is invariably exposed to attacks of convulsion. I once attended a patient, not very far from the University Hospital, who was affected with this disease: the urine was considerably albuminous, and, in the midst of the affliction, a series of epileptic attacks commenced, and terminated her existence. That was a case of albuminous urine; and from this fact you may take it for granted, that whenever the urine is not in the most healthy state—secreting what it ought to secrete, and no more—whenever it secretes sugar or albumen, there is danger to the nervous system—the danger of epilepsy, and, therefore, of convulsion. I will mention one more case, which occurred at Dublin, under the inspection of Dr. Bligh. There was nothing particular in the symptoms of the patient, to create any fear the first day and night, but, on the very next evening, the patient was taken with the most decided epileptic attack I ever saw. The man was obliged to leave his business, and has recently died. There was albuminous urine, and, with this, an attack of epilepsy, produced by the introduction of blood through the ventricle of the brain.

I have just said a few words respecting the circulating system. These parts of the animal frame may be viewed as mere machinery. This is called the real circulation; but the blood does nothing in the veins, the heart, or the arteries; all it does do, is in the capillary vessels. Then I showed you that there was a connection between the circulation of the blood, and the nervous system. Now, with regard to the actions of the true spinal marrow. I believe they are all reflex, in every instance but one, which I would call a direct action; that is, the action of tonicity in the muscular fibre. How can we prove that this is a direct action? I will tell you a simple fact, and then you will observe how I come to the conclusion that this is a direct action. I believe that the spasm after death—what is called the spasm of death—to be an action of the last kind during animal life. I took two rabbits, and killed both by a blow on the back part of the head. In one I took away the spinal marrow, and in the other I left the spinal marrow entire. I then placed them on a table, and watched to see whether there was any difference between the two, and I found that there was something more—in the one in which the spinal marrow was entire, than in the one from which the spinal marrow was removed. The one in which the spinal marrow was perfect, was free from any rigidity. Here is a perfect case of direct action. All, then, is physiological with regard to the spinal marrow, with this single exception,—it is reflex. What, then, is the conclusion? Why, that a very great part of its actions are pathological. Now, take an animal, and see it breathe. The acts of respiration are entirely physiological and reflex. Take an animal and place it under water. You will gradually find that the animal is affected with convulsions; now, these are direct, and are owing to the circulation of morbid blood upon the spinal marrow. First of all, the blood is surcharged with carbonic acid, and a state of coma is produced in the brain, from the circulation of improper and morbid blood: you then see violent struggles to escape—these cease in a second, and the animal dies perfectly still. The moment you observe it silent, you may be sure the brain is in a state of coma,—there is no convulsion, and no longer any action. By the bye, these struggles are respiratory; they are invariably taken to be struggles of respiration, and with these struggles the whole of the animal is drawn together in a state something like empros thotonus. You see this is a pathological, and a very interesting, state of things.

(To be concluded in our next.)

PRACTICAL OBSERVATIONS ON THE NATURE, PECULIARITIES, AND TREATMENT, OF SOME OF THE MOST PREVALENT DISEASES, &c. CONNECTED WITH THE POPULATION OF NORTH CHESHIRE, AND SOUTH LANCASHIRE, EMPLOYED IN COTTON FACTORIES.

By Charles Clay, Member of the Royal College of Physicians, London, College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence and Medical Police, Manchester.

(Continued from page 200.)

Under such circumstances, it is next to impossible that a healthy offspring can be expected. The only time the child can enjoy its natural food (the breast) is perhaps the factory meal hours, when the milk has been long pent up, and, in all probability, is much depreciated, or during the night: and if not bad of itself being mixed with the bad food previously given, soon takes on acetous fermentation, producing a never-ending catalogue of diseases under the general term of acidities, in the first passages. It would be next to impossible to attempt remedying such affections by medicine alone, and equally so to expect a change of habits sufficiently extensive to have any beneficial effect. The best artificial food I have found for early infancy, is the brown crust of a home-baked loaf of bread, boiled in a small quantity of water to a pulp. For the first few weeks the child should be fed on the liquor only, but after that on the pulp as well as the liquor. In this simple diet difficulties arise—many families have not the convenience of an oven, and most of them have not the time allowed from their occupations to bake their own bread, and have therefore to rely on that from public bakers, well known to contain alum, potatoes, and other materials, having a rapid tendency to acetous fermentation, in fact, the main source of this class of diseases in children.

It should be observed that this simple food when properly made, seldom becomes acid on the stomach, but to ensure it still more effectually from that tendency, every care should be taken not to use any of the inner portion of the loaf, but the browned crust only, the former being more disposed to become sour than the latter. As acidities in the alimentary canal are in all cases attended with great uneasiness, restlessness, and almost continuous crying, this class of people are very prone to apply remedies of their own procuring, which are invariably quack nostrums, in which there is a large proportion of opium, generally the "*Infants'*

Preservative, which is imitated by every druggist in town and country, and that sought after most, which produces the *most stupefying effects*, that is, containing most opium. Indeed vast numbers of these little beings exist only from day to day in a sort of dreamy oblivion, until some disease is brought on by such practices of greater fatality, to release the sufferers from their misery. To give some idea of the extent to which this practice is carried, I know of one locality, the population of which does not exceed twenty thousand, in which there are not less than eight chemists and druggists, all of them vending "infants' preservative" of some kind or another. *One* to my certain knowledge makes it in large quantities, about twice a week, at each making use of not less than an imperial quart of the tinct. opii. Ought not such facts to be known to our *patriotic legislators*? Can any one be surprised at the general appearance of such children after the disclosure of such practices?

The treatment most likely to relieve the acidities of the first passages is mucilaginous and cretaceous mixtures, combined with a little aniseed or a carminative. If obstinate, the addition of a little sub-carbonat. potass. will generally be sufficient; occasionally the hydrarg. c. creta. is advisable. After such treatment the common consequence observant on the use of opiate nostrums are absent, and there is the satisfaction at least, if the child dies, that the means employed have not facilitated or in any way hastened its death. I do not mean to deny that opium is not useful even in such cases, but it should be given only under the direction of a medical practitioner, and I believe its use is more limited than is generally allowed. After all, unless the child is well nursed and well fed, the best treatment will avail but little, and must frequently fail. The diseases attendant on the foregoing bad systems of nursing and feeding children, are not merely confined to such as have already been noticed, but extend to others of a far more formidable character, and more frequently fatal in their result. Perhaps the most prevalent, (and certainly a very fatal affection,) I have witnessed in this class of society, is the mesenteric glandular affection, a class of cases that has generally been considered as hopeless, the length of time required for any effectual treatment, the slow progress of amendment, if any, renders the parents careless and often indifferent; that rigid attention which alone can secure benefit is relaxed, the child is indulged with anything, and everything (under the false notion of kindness) which soon terminates its existence. From having paid great attention to this disease for many years, and after having witnessed vast numbers of cases, I am convinced the disease is to be controlled by medicine, if anything like proper attention can be secured to the diet and nursing. Where that could be obtained I have seen many recover after having suffered most extensively, and to all appearance when the case has assumed an almost hopeless position.

Some time ago, (*See Lancet, Vol.* 1. 1841-2, *p*. 886) I directed the attention of the medical profession to the analogous disease in the mesenteric glands of the adult, which led me to a line of practice in children that has invariably given satisfaction when persevered in, and when seconded by the most rigid attention to diet and nursing. The cause of this disease is sufficiently apparent when the foregoing bad habits are considered. Post-mortem have disclosed the fact, that the mesenteric glands are enlarged, or in plainer terms, they are incapable of allowing the chyme to pass through, which is necessary to become chyle. The child has a voracious appetite, but in consequence of this glandular obstruction, the system receives no nutriment; as the disease progresses, the belly swells, and becomes tympanitic, whilst the rest of the body wastes rapidly, and the child soon dies, if some means of relief are not attempted. The plan I have generally pursued is, first to regulate the diet, allowing the child to be fed at stated times, with an interval of three or four hours between each meal, [illegible] which, [illegible] food [illegible] much [illegible] or out-door air [illegible] possible, [illegible] interval [illegible]. The [illegible] character. [illegible]

A tepid bath every night up to the arm-pits, in which a little spirits of turpentine is put, say about an ounce) for about five minutes, the belly to be rubbed with soap liniment, and ol. terebinthinae in equal parts every morning. With respect to medicine, I only give a dose of the hydr. c. creta, night and morning, to each of which doses is added one-fourth of a grain of calomel. The powders are to be continued for some time, omitting the calomel occasionally. By adopting this simple plan, I have restored many to perfect health after every other means had been tried in vain. I have often found advantage in advising flannel next to the skin in marasmoid affections particularly; and this is, perhaps, more requisite from the prevalence of a moist atmosphere pervading this locality; confirmative of this, is the fact of mumps being very prevalent in infancy, but more remarkably so, in the next period of life, of which I shall say more hereafter. As might be supposed, by the congregation of numbers, and the little regard paid to cleanliness, cutaneous eruptions are very common; the ring-worm, and scald head are particularly so, and some of the cases assume a very obstinate character, and only give way to the most energetic, local, and constitutional treatment. I would just notice, independent of the constitutional treatment, I have found the use of about ten or twenty drops of the acid. sulph. rubbed down with an ounce of the ol. palmae very efficacious in dispersing the scald head: of course, neither it, nor any other local means are likely to succeed, without the constitution being attended to. Teething is generally difficult, and, perhaps, to that circumstance, so many cases of hydrocephalus are to be attributed; these latter, however, are most prevalent in families of strumous habits, and in the treatment of which there is nothing different to the plans generally followed. There are still other diseases to which we might direct attention, but as they will fall more legitimately under the next chapter, I shall defer their consideration in this, to avoid unnecessary repetition.

THE HEAD OF GOOD, THE MURDERER.

The fourth meeting of the Phrenological Society for the present session was held at the Society's Chambers, in Exeter Hall, on Monday evening last.

John Elliotson, M.D., F.R.S., &c. &c., President, in the Chair.

After the usual preliminary business, an address was delivered by Edmond S. Symes, Esq., on the correspondence between the cerebral indications and the known character of the murderer, Daniel Good, in answer to some recent arguments against phrenology. Mr. Symes gave a brief sketch of the character of Good; his poor intellect, his propensity to theft, cunning, lying, debauchery, and extreme violence,—counterbalanced only by great affection to his child, and by general respectfulness to his superiors; and then pointed out on the cast of his head the small development of the forehead, the region of the intellectual faculties, the extreme breadth at the sides, particularly at the organs disposing to violence, (destructiveness,) cunning, (secretiveness,) and love of property, (acquisitiveness;) also at the back, in the situation of cunning, (combativeness,) and physical love, (amativeness;) and the sloping of the coronal surface, (the moral religion,) together with his very large love of offspring, (philoprogenitiveness,) and large veneration, observing that this last organ did not necessarily imply any feeling of religion but might show itself, as in this case, in respect to superiors. He need not enter more fully, he said, into this comparison, as a very accurate account of the cerebral development and character of Good had been recently published in the MEDICAL TIMES of [illegible] but he had some time since attended a lecture professing to disprove phrenology, the lecturer taking for his "text" this very head. The demonstration he had just made of the perfect accordance of the cerebral development of Good with his character, was perfectly conclusive upon that point; but, although to the members of the society it would of course be a work of supererogation to undertake any refutation of arguments against their science, still, as, on the present occasion, they were honoured with the presence of many ladies and other visitors, some of whom might not be deeply versed in the principles of it, he had thought it might be not altogether uninteresting to examine a little into the lecturer's general grounds of opposition; and this, not because of any weight likely to be attached to the opinions of the individual in question, nor from any particular cogency or novelty in the objections themselves, but because they are just such as are usually adduced and eagerly adopted by opponents of phrenology, and, if treated with the contempt they deserve, might be supposed valid by those who do not know how often such arguments have been refuted.

The lecturer commenced, said Mr. Symes, by acknowledging not only that "the brain is the organ of the mind," and that, "for the proper manifestation of its functions, the brain must be in a healthy state;" but that "it is a general rule that in all persons of great mental power, we find a well developed head, and particularly a large forehead!" "But then," said the lecturer, "all this was well known and admitted before the time of Gall." Mr. S showed that so far from this truth having been generally admitted before the time of Gall, quite the contrary was the case; so that when he first announced his discoveries he was assailed on all sides by ridicule and persecution, and that it is only recently that it has become generally admitted.

The lecturer next asserted, "that the brain was not composed of a great number of distinct organs, but of single and undivided organ; the whole brain being brought into operation on every exertion of the mind;" forgetting, or not seeing, the force of his own admission, that, "in all persons of great mental power, we find a *well-developed* head, and particularly a *large forehead*." Whereas, if the brain were a single organ, mere size and quality would be sufficient, without reference to *form*. There would be no necessity for the forehead—the intellectual region—to be large; and, certainly, no mere dictum will suffice to overthrow the mass of facts by which Gall has established the multiplicity of the cerebral organs. How is it, if what the lecturer says be true, that he "has had extensive opportunities, during the last ten years, of examining vast numbers of heads, in various public asylums, and comparing them with the individuals' characters," that he does not adduce any *facts* in support of his assertions? How is it that the cases he has adduced, turn out to be only additional proof of the truth of phrenology? We see that this is so with regard to Good; and the only other cases he mentioned, those of Thurtell, Hare, and Burke, have long since been proved to be equally so.

The lecturer had next declared, that "it is impossible to ascertain the form of the brain from that of the head, for that the different parts of the skull vary in thickness from one eighth to one fourth of an inch." Mr. S. exhibited a number of skulls, and various sections of skulls, to show that, in healthy skulls their bones do not vary more than one-eighth of an inch in thickness at different parts

whereas, the differences in the size of organs is estimated by inches, and the mere one-eighth inch would be of no practical importance. Of course, in cases of exostosis, or other disease, exceptions might occur; but our rules do not apply to cases of disease, and such exceptions are extremely rare.

"Then," the lecturer "did not find these organs marked out upon the brain as upon the marked bust, nor any correspondence between the two hemispheres, the convolutions on the two sides did not run in pairs." No; no phrenologist ever pretended to find the forms of the organs so marked out; when an organ is largely developed, it shews itself externally, nearly in the form and situation indicated upon the marked bust. No one pretends to define the precise limits of different organs, any more than he could point out the exact division of the colors in the spectrum: the marked bust is merely to teach learners the ordinary forms and situations of the organs, which may be situated a little higher or lower, according to the greater or less size of neighbouring organs; but an expert phrenologist can readily distinguish them near enough for all practical purposes.

The two hemispheres correspond in a remarkable manner, but whether the forms of the convolutions on the two sides are so symmetrical that we can trace out which particular convolution belongs to each individual organ, is a point requiring further investigation. Mr. S. regretted, however, that the bust should be so marked as to give a handle to such objections as the above. Gall contented himself with placing a numeral as nearly as possible in the centre of each organ, and then shading it off, so as to shew its ordinary limits. Upon the bust, too, all the divisions are marked out, as if the functions of each were ascertained with equal certainty. Now, as regards the 27 or 28 organs discovered by Gall, the mass of evidence in support of them, is so conclusive, that we must consider them as perfectly established; but, as regards the 6 or 8 which have been added since, the functions of some of them appear to have been correctly assigned; but the evidence in favour of others is inconclusive, and of some, perhaps, untenable. But to return, said he, to our opponent:

"The convolutions at the base of the brain, and between the hemispheres, are as numerous as elsewhere, yet phrenologists assert that these are not organs."

This is altogether untrue. There are not any convolutions between the hemispheres, and so far from denying the probability of the existence of organs at the base, some facts have been recorded, tending to shew that an organ of *love of life* is there situated. As we cannot, however, distinguish the development of the base of the brain during life, it is difficult to verify this.

The lecturer objected that "Mr. Combe professes to be able to tell, from the form of the head, whether a person was a good moral character, or the contrary."

Neither Mr. Combe, nor any other phrenologist, ever pretended to predicate *actions*. What we do profess, and are able and willing to prove, is, that we can discover the *tendency* of the character from the form of the head, supposing the brain to be sound.

The lecturer found fault with phrenologists for not applying their rules; and, immediately after, exclaimed against a proposed application of them. Some one had remarked that no phrenologist ought to take any one into his service, without a previous examination of their cerebral development.

"Here is a pretty proposition," said the lecturer, "a well-conducted person who brings a good character from his last place, is to be thrown out of employment because your craniologist finds some bad bumps in his head."

Whilst the lecturer was indulging in this eloquent diatribe, there stood upon the table before him, as if in derision of his argument, a cast of the head of Courvoisier, the murderer of Lord William Russell, a man who had brought with him an excellent "character" from former masters and mistresses; yet no phrenologist, who had carefully examined his head, would have trusted an individual with such an unfortunate organization as this head presents.

Then, "Phrenologists say that the cerebral power emanates from the grey substance—and my strongest argument against them," says the lecturer, "is this, that the grey substance is not of one uniform thickness all over the brain, but is of all kinds of thicknesses."

Now, in the first place, it is an hypothesis by no means generally received among phrenologists, that the cerebral power emanates more particularly from the grey substance, though there is every reason to believe that it does emanate from the surface generally. Gall taught that the grey substance is what he terms, the matrix, for generating and nourishing the white, fibrous, portion of the brain. Dr. Fletcher, and some others, are of opinion that it is also the grey portion, more particularly, which eliminates thought and volition; but, at all events, this does not affect the principles of our science; and, certainly, it might be quite true for anything that the lecturer advanced to the contrary; for this, *his strongest argument against phrenology*, viz., that "the grey substance is of all kinds of thicknesses," is an assertion by no means true, since it is pretty equally distributed over the surface of the *cerebrum* and the lecturer did not appear to be aware that, in the *cerebellum*, the grey matter is not upon the surface, but is beautifully arranged upon its internal situation.

Mr. Symes then took up the *cui bono* argument, and entered into a disquisition upon the very extensive applications of Cerebral Physiology in Education, Medicine, Criminal Legislation, &c. &c., and concluded his address by adducing numerous pathological and physiological proofs of the truth of the science.

The president announced that as the next ordinary meeting would fall on the 2nd of January, when it was probable that many of the members would have other engagements, the meeting would be adjourned till January 16th, at the usual hour.

CURABILITY OF CONSUMPTION

To the Editor of the 'Medical Times.'

SIR,—I have discovered, with great pleasure, that the several cases, demonstrating the curability of pulmonary consumption which, lately appeared in your columns, have produced so deep an impression, that medical men are now induced, despite of the principles in which they have been schooled, to turn their attention to this important discovery, and yield to the convincing testimony of unanswerable facts. This is as it should be, and when the light of reason once begins to shine, it behoves every one to aid in dispelling the mists, which have hitherto obscured it. On this account, and encouraged by the ready insertion accorded to my former letter, I again address you, to add further corroborations of the great truth which, Dr. Ramadge has been enabled to bring forward. The subject is not only inexhaustible, but so important, and of such magnitude, that it requires to be examined in all its bearings, for only by the test of scrutiny can it become established as it deserves. The finger of nature has been pointing to it for ages, yet no eye has followed the sign. In vain had science asserted that there is no bane without an antidote; the fact, as regarded consumption, was denied, and, until Dr. Ramadge made the discovery, the hearts of all who were afflicted with that terrible disease, were left to sink in despair. He has now had the experience of nearly a quarter of a century, as senior physician to the infirmary for asthma, consumption, and other diseases of the chest; which afforded him an unrivalled field for investigating the causes effecting the cure of consumptive disease; and, as I have partaken of the knowledge gathered from that experience, by being present at his lectures, and having made myself acquainted with the details of many remarkable cures, I cannot better perform my duty to the profession than by diffusing what I have learned, and, in doing so, shall imitate the example of your excellent correspondent, "*Philanthropos*," who, very properly, gives you the sources of all he advances.

In all cases of consumption, the grand law which effects its cure, is the prevention of contraction of the chest. The localities in which this prevention appears are, as I shall have occasion to point out, various. Yet, in every variation, the antagonism to consumption is established by one ruling principle, viz., the re-adjustment of the deranged relation or balance between the organs of inspiration and expiration, through the agency of something obstructing more or less the exit of the air *in the act of expiration*. Here let it be observed by the way, that nature, in her operations under this law, rarely does her work perfectly, and, in many instances, runs from one extreme into another. The forces which represent the powers of inspiration are stronger than those forces which represent the powers of expiration; consequently, when the impediment mentioned exists, owing to the weaker expiration, and the imprisonment of air, in some degree, an enlargement of the lungs takes place, and the cure of the disease is brought about.

No sooner does consumption occur, than it is earlier or later marked by contraction of the chest. The windpipe, by retaining its original size, becomes comparatively too large for this reduced compass; the exit of the air is too free to offer antagonism to the advance of the disease, which would be attended by the occurrence of new crops of tubercles, and their presence and subsequent liquefaction in the lower lobes of the lungs. It is pleasing to observe that when nature or art interrupts the daily contraction of the lungs, before the invasion of the tubercles in the lower lobes, we find little or no disposition in the larynx or intestines to fall into diseased action. The following exhibits a hasty and imperfect catalogue of the admirable, yet simple and accidental processes by which the beneficial interruptions alluded to are brought about, and which I shall comprise under the head of

DIFFERENT MEANS BY WHICH CONSUMPTION IS ARRESTED BY NATURE.

Enlargement of the tonsils.

Diseases of the heart.

Tumours of any sort on the windpipe, or its division.

Hysteria.

Asthma.

Catarrh, symptomatic or idiopathic.

Polypus in the nose, or, indeed, any mucous intumescence in the same part, or nasal fossae.

Uterine haemorrhage, or profuse, or too frequent bleedings from any part of the body.

Disease in the vertebrae of the neck, has, in more than one instance, been noticed by my preceptor to point beneath the pharynx, and constitute a tumour standing in the way of the expired air.

I now proceed to recapitulate the *modus operandi* of these agents.—

ENLARGEMENT OF THE TONSILS.—The great rarity of manifest consumption in children is owing to the enlargement of the tonsils so commonly

observable in them.* The same strumous habit that gives rise to the foregoing state, antecedently or concomitantly, deposits tubercles in the lungs: in the majority of cases we have no opportunity of seeing these, when, after a lapse of years, death follows, from disease wholly unconnected with any chest affection, owing to their absorption; but we not unfrequently witness the black stains or indurations in the summits of the lungs, where they have been. It may be here mentioned that even the greater number of *adults* who are seen with any degree of enlarged tonsils, can recollect when only superficially questioned, that they had suffered under some antecedent affection; displaying all the constitutional symptoms of consumption.

As the greater power of the inspiratory muscles will, even under this state of enlarged tonsils, draw in the air with more freedom than it can escape, the preponderating action will, of course, expand the lungs, and, assisted by the weakness of the expiratory powers, imprison air sufficient to increase that expansion and thus enlarge the thorax; and, what is remarkable, by making the patient short-breathed or asthmatic, so completely alter the scrofulous habit as to remove the very impediment (i. e. the enlarged tonsils) which has the capability of defeating any contraction of the lungs that would lead to unmasked tuberculous phthisis. Still more extraordinary, the enlargement of the tonsils alone is sufficient to render the lungs voluminous, and to close up a cavity resulting from liquefied tubercles. Dr. Ramadge considers enlarged tonsils as indications of a scrofulous habit, and that the lungs are, or have been, tuberculated; but this enlargement is, at the same time, a sign of the non-liability of the patient to sink under phthisical disease, of which it is an indication. Whenever he perceives the absence of this sign, he recommends caution to his patients in their intercourse with consumptive persons.

Many instances can be adduced from the practice of the above-named physician of what has been here stated, and, in a future paper, I shall furnish cases in point, supported by well-authenticated facts.

DISEASES OF THE HEART.—In all lesions of the heart there is to be found congestion of the venous system; and the bronchial mucous surface is in a greater or less degree affected, owing to the difficulty which the bronchial veins experience in transmitting their blood into the larger venous trunks destined to receive it. The consequence is, that imprisonment of air is effected after the manner just explained in the preceding paragraph, and the lungs become voluminous. Though tuberculous deposits may have previously taken place in the top of one or both lungs, the disposition to form new ones is subverted by this enlargement of the lungs, which I have already described as unfavourable to the continuance of the scrofulous habit, or entirely subversive of it. The pathological researches of Dr. Ramadge have enabled him to establish the co-existence of tuberculous disease with scrofula in any part of the body. He is also satisfied that aneurism of the aorta, or of any large artery, is nothing less than the result of some previous tuberculous disease which has impaired its power of resisting sanguineous impulse. Dissection has proved in all his recent examination of aneurismal cases that this is the fact, and that there had existed, at one period or another, a tuberculous disease of the lungs. DIAPHULUS.

(To be continued.)

A BRIEF EXPOSITION OF DR. MARSHALL HALL'S LECTURE ON THE NERVOUS SYSTEM.

SIR,—I was not a little surprised to read the announcement in your paper of Dr. Hall's lectures, which I shrewdly suspect your good nature, rather than your good sense dictated. Since so much fuss has been made about what is intrinsically worthless, and positively mischievous *in practice*; allow me to offer a few remarks upon the lecture in your last number, in which I think I can shew there is both absurdity and inconsistency.

I cannot even pass over this first paragraph of *kitchen* oratory, in which the bad English is so apparent that it must strike the most superficial observer, e. g.:—

Gentlemen, it is my office (qy? duty), to bring before you the *subject* of the diseases of the nervous *system*. In introducing the *subject* to you I shall go very rapidly through the anatomy and physiology of that *system*(!) I do not think I need go very deeply into the *science*, (of what?) because many of you have very probably *listened* to the more eloquent *words* that have fallen on this *subject* from Mr. Grainger, &c.

So then because a part of Dr. Hall's audience or pupils had listened to eloquent language from Mr. Grainger, the other, possibly the majority, was not to have the advantage of that instruction for which they attend the hospital.

I need hardly tell you that along the spinal canal a *chord of nerves* runs, which has been very improperly called the spinal marrow. *I would venture to call this a chord of cerebral nerves*; for it is quite plain that from any idea of the subject that we have formed, *it is neither more nor less than a chord of nerves proceeding from the cerebrum*, and passing along the spinal canal, and out of that *into the different members of the body*.—(Line 15th, 1st col.)

We shall see presently that this is *not a chord of cerebral nerve*, according to the same authority. But to proceed:—

We will, therefore, view it a few moments as it ought to be viewed as *a mere chord of spinal nerves running along the spinal canal*.—(Line 23d, 1st col.)

What Dr. Hall says about the possibility "of removing the cerebrum, the centre of those nerves and the *ganglionic* system, and yet have *another kind* of nervous system remaining in the animal body," (line 36-37) is stark staring nonsense. It is like saying, "Gentlemen, it is possible to cut off the nose, to remove the alæ and the cartilaginous portions of that organ, and yet have another kind of nose." I am afraid it would have been a very difficult thing to persuade Sir John Coventry who had his nose cut off by the bravos of Charles II, that he had *another* kind of nose still remaining. So with Dr. Hall's "other kind of nervous system." Here follows the "simple" (query complex) experiment to prove his assertion.

You see here an animal (a frog, alas! for poor Mr. Frog! this "roly-poly," and consequently his "opera hat" were "gammon and spinach" to Dr. Hall) from which the *head*(!) has been separated, and *of course* (!) *I need not tell you, that with it the* BRAIN HAS BEEN ENTIRELY REMOVED!!

Now I really think this was highly important information, whatever some critics may think, for though it has been generally believed that animals have their brains in their heads, it is quite plain, from *personal* experience, Dr. Hall has not found this so universal as has been supposed. Has Dr. Hall then ever discovered a transposition of *organs* as others have a transposition of the senses? the brain in the epigastrium—or great toe for example? To continue:—

All the viscera have also been removed, and with the viscera *every portion of the ganglionic system*. Now, I beg to repeat, &c. (and here he repeats all that he had previously said), and yet when I pinch the extremity it moves, so as to be obviously perceptible at the remotest part of this theatre.

After another repetition of what he has once before repeated, relative to the removal of the brain and ganglia, he says, "yet you observe something remains!" To wit the *disjecta membra* of the mutilated Monsieur Grenouille! *pauvre* Grenouille!

"Now, Gentlemen, that *which remains I venture to call in* CONTRADISTINCTION FROM WHAT HAS BEEN TERMED A CHORD OF CEREBRAL NERVES, and the origin of the ganglionic system—the TRUE SPINAL MARROW.—(Line 4, 2d col.)

Here then we find a gross inconsistency. The Dr. first call it himself "a chord of cerebral nerves," and then, with matchless forgetfulness, calls it "in contradistinction *the true spinal marrow*." This is a contradiction of himself, and we must beg to add that "spinal marrow," as applied to the "chord of nerves" running through the spinal canal, is not only contrary to every physiological principle, but to common sense; for no two tissues differ more widely from each other in the human body than *marrow* and *nervous matter*. They differ not only functionally, but organically—they differ not only physically but chemically. But observe how Dr. Hall proceeds to argue against the very dictum he had laid down only a few lines above. He continues:—

It is plain in the first place that it is not a mere chord of nerves; if it were a mere chord of nerves, you might divide it, and then you would intercept its influence...(Line 10, 2d col.)

In the second paragraph in the second col, we are gravely told

If you take an animal and lay the brain perfectly bare (the horrid process of dividing the integuments and *sawing* the bones of the skull go for nothing with Dr. Hall! Why a little reflection and his own doctrine of "shock," would have told him that all power of *receiving* or *perceiving* sensation, is annihilated by that very process, and that vulgarly speaking the animal is already dead!) and lacerate the brain in every possible way you can devise, you cannot in any manner induce muscular motion.

Now I hold that the "shock" of dividing the integuments and bones is sufficient to account for this insensibility, and the example Dr. Hall himself gives, a little lower down in the same paragraph, of the *insensibility* of the brain of the horse, killed by the blow of a poleaxe to lacerations and injuries, amply bears out my assertion. But what is fatal to the position assumed by Dr. Hall is, that his *fact* is not *true*. If the skull be only partially injured, and the brain be exposed, so that pressure be made upon it, *convulsions instantly ensue*, and that fact, independent of my own experience, is vouched for both by Richerand and Combe. I have not Richerand by me, but the case is cited by many writers. It is that of *a female in whom convulsions could at any time be produced by making pressure on the brain, through an opening caused by trephining*. A similar case, or I believe *cases*, you will find in Combe. We pass on to the last paragraph of the third col., where we are told, that Dr. Hall has thought necessary to rebaptize a certain principle of the nervous system, which a very unimportant personage, called Albert Haller, named *vis nervosa*, and its appellation is now *excito-motor*. Welcome then Signor Excito-Motor, though like the Spaniard with the long name, we are afraid we cannot find room for you. But take your chance Signor Excito-Motor, you have the power *to go* whenever you please.

Dr. Hall says:—

That all the authorities have hitherto said that this *vis nervosa* acts in one direction only; that is, from the centre towards the circumference, from the spinal marrow towards the muscle to which the nerve goes.

Now no physiologists, neither Haller nor Muller, ever said anything that can be tortured into the meaning conveyed by Dr. Hall. They knew very well that if a wound is inflicted on the finger the sensation was first communicated to the finger and thence to the brain, which

then *perceived* the injury. It is true they did not call this process excito-motor, or reflex, but thought, as I still think, that *vis nervosa* was a good appellation. But I have intruded enough for the present.

ALPHA.

Dec. 28th, 1842.

A LECTURE ON THE MEDICAL PROPERTIES OF THE PAPAVERACEÆ. DELIVERED BEFORE THE ROYAL MEDICO-BOTANICAL SOCIETY.

By Dr. COOKE, F.L.S., Professor of Botany.

If I were required to point out the manner in which botany has contributed most prominently to medicine, or to prove the inseparability of the different branches of medical science, I should adduce the grand discovery that from the structure of a plant, its remedial properties can be deduced. Plants that resemble each other in structure, are, more or less, similar in their action on the animal system. This is true of individuals belonging to the same natural order, and more strictly so when applied to those of the same genus. By this doctrine we are enabled to distinguish wholesome from deleterious plants when resembling each other in general configuration, and when, from any circumstance, the one commonly used is wanting, to replace it by another, and thus, as Dr. Lindley says, are rendered as much at our ease when alone, and seemingly without resources, in a land of unknown herbs, as if in the midst of a magazine of drugs in a civilized country. This great truth, first asserted by Tournefort and Ray, extended by Adanson and the Jussieus, has since been confirmed by Richard, Desfontaines, and Decandolle, and is now universally admitted. The proposition may be thus stated. Find out the natural order of a plant, and you have in the vast majority of instances, a sure key to the effects it would produce on the living body. Probably, this would always be the case, were the true natural system discovered, or had we sufficiently investigated the true powers of every plant. At present we have certain exceptions to make to the rule I have laid down, and certain precautions to observe in the practical application of it. By attention to these, we shall find the number of exceptions will be greatly reduced. It is not my intention to enter this evening into the consideration of the exceptions; but I will notice a few of the cautions to be borne in mind. The natural order we propose to discuss to-night—the Papaveraceæ—will furnish a few instances of exceptions, and many of agreements with the rule. So many, indeed, that Decandolle views it as one of the orders most entirely favourable to his views, and so places it in his "Essai sur les Proprietes Medicales des Plantes."

The chief precautions are:—

1. That the plants to be compared shall be in the same conditions with respect to age, dryness, soil, situation, light, and air—all circumstances of known power in determining the activity of plants. A young plant has not the same quantity of active principles as a mature one—nor is one removed from the influence of light and air capable of forming its secretions equally with one fully exposed to these agents. Upon this principle the well known difference between the powers of wild and cultivated (blanched) celery is explained. Dryness, or moisture of soil, is often the cause of most essential differences, as in many of the umbelliferæ.

2. The parts of plants used should be the same; it is not fair to compare the root of one like the flower of another.

3. The mode of preparing them for administration should be the same. If more heat, &c., &c., be used to one than to another, it is obvious that powerful volatile principles may be dissipated, and the drug rendered inert.

4. Accidental or mechanical properties should not be confounded with those which are essential. The grass eaten by dogs causes them to vomit; but we must not then conclude that it possesses emetic powers. The vomiting is induced by the sharp rough edges tickling the throat like a feather.

5. A careful distinction must be observed between plants which differ in kind, and those which differ in degree only. In some the active principle is so concentrated as to render them poisonous, whilst in others, though in, perhaps, the same *absolute* quantity; it is so diluted by starch, gum, &c., as to become comparatively harmless.

6. We do not really know the properties of drugs, and hence what one author would call generally a stimulant, another would place amongst the emetics, purgatives, &c., &c.

7. The powers of drugs vary with their doses. Opium in small doses is stimulant; in larger, narcotic—is poisonous (especially if administered in the third form), sedative, depressing the powers of life without running through any appreciable stage of stimulation.

8. From the true natural system not being yet discovered, many plants are beyond doubt wrongly placed and thus form seeming exceptions to the rule. By paying attention to these circumstances, we shall be able to explain nearly all apparent anomalies.

The papaveraceæ are thalamifloral exogens herbaceous, annual plants, less frequently shrubs with fibrous roots, leaves alternate, simple, penninerved, dentate or pinnate, exstipulate, peduncles unifloral, flowers, white, red, or yellow—never blue. Sepals two, deciduous. Petals three or four, and cruciate. Stamens numerous, hypogynous. Fruit one celled with parietal placentæ. Seed numerous. Typical genera, papaver, glaucium. Papaveraceæ are known by the deciduous calyx and parietal placentæ. The first distinguishes them from the cistaceæ; the latter from ranunculaceæ and nymphæaceæ. Brassicaceæ differ in having the stamens tetradynamous.

The medical properties of the whole order are acrid and narcotic, and reside in a white or yellowish milky juice. The chief genera are in addition to those given as typical, chelidonium, argemone, sanguinaria and bocconia.

I have stated that the properties of the order are acrid and narcotic—perhaps it would be better to say that the narcotic are universal, and that in many genera the acrid are superadded. Those in which this occurs are chelidonium, argemone, and sanguinaria. The juice of these, blisters and corrodes the skin, and taken internally produces, if in small doses, stimulant after emetic or purgative effects; if in larger, powerfully irritant and narcotic. The latter quality enables some of them as argemone mexicana to relieve strangury—the fruit of sanguinaria canadensis and chelidonium majus also possess narcotic properties. No part of papaver rhœas is known to produce narcotism. This plant, and the fact of a species of argemone, having slightly laxative powers form two exceptions to the general rule.

The seeds of the whole order are innocuous, and afford a mild, bland fixed oil, which is often used with salad on the continent. Some of the genera as glaucium, are not known to have acrid properties, and the juice of papaver, is not commonly believed to be so; but it is a curious fact, that if we take the morphine from opium it will irritate and inflame the skin, and new opium will cause lachrymation and sneezing by its vapour. Few of the Papaveraceæ have, except P. somniferum, been employed in medicine, and no other enters into the pharmacopœia. Chelidonium majus has been used to destroy warts, and to remove opacities of the cornea. It has also been given as a stimulant and sudorific. Sanguinaria canadensis has been employed in phthisis, croup, pneumonia, &c.; but not extensively; and argemone mexicana is employed in India in chronic opthalmia and primary syphilitic sores. Its narcotic properties are said to be stronger than those of opium.

By far the most important of the order is P. Somniferum, from which opium is obtained. This drug is the inspissated juice of the unripe capsules. In describing its properties, I shall give a general idea of those of the whole order.

First, in small doses, (gr. ¼ to gr. ½) it is stimulant—raising the action of the heart and nervous system: in full remedial doses (gr. i. to gr. ii.) it is narcotic; i.e., stimulating at first, and afterwards depressing—at the same time arresting, nearly, if not quite, all of the secretions. Thirdly, in poisonous doses, it is sedative—depressing from the beginning. In all three doses, it is soporific and anodyne. I shall not enter upon the effects produced by the habitual use of this drug.

Opium is used, according to Dr. Pereira:—

a. In fevers, whenever there is much watchfulness, restlessness, diarrhœa, or delirium, especially delirium tremens.

b. In inflammatory diseases, especially after bleeding, to relieve pain, restlessness, and spasm, or to arrest undue secretion.

c. In painful or other affections of the genito-urinary system—as stone, retention of urine, diabetes, &c.—to relieve pain, relax spasm, or check secretion.

d. In hæmorrhages.

e. In gangrene, as a stimulant, in small doses.

f. To relieve pain of ulcers, especially those of a cancerous nature.

Much difference of opinion exists, as to the share each of the numerous principles existing in opium has in producing or modifying its peculiar effects. Some, from being insoluble, may be at once pronounced, *in the medium*, inert. Others have, perhaps, never been perfectly separated from those with which they are in combination; and, in a third class, experiments have not been made, either in sufficient number, or with sufficient care, to enable us to speak with any degree of confidence.

The chief principles found in opium are,—a volatile principle (oil?), codeine, narcotine, narceine, meconine, meconic acid, morphine, paramorphine, pseudomorphine, and extractine.

1. The volatile principle, to which opium owes its odour, would appear, from experiments by Orfila and others, to be inert. But it has never been perfectly isolated.

2. Codeine.—The statements in reference to this substance are very contradictory. Majendie says it produces sleep and stupor. Dr. Gregory found gr. vi. produced symptoms like those of intoxication, followed by sleep. Others say it is irritant and stimulant, never stupefying—and some have considered it to be the stimulating principle of opium.

3. Narcotine was at first said to be the stimulant principle of opium. It is now considered to be of but little activity, and that Majendie and Orfila, who viewed it as very active, used it imperfectly isolated. (Pereira.)—Dr. Roots gave ℈j., without any bad effects. In India it has been tried with success, as a substitute for quina, in intermittents.

4. Narceine—supposed, from experiments, to be inert.

5. Meconine—also supposed, from experiments, to be inert.

6. Meconic Acid—peculiar to the papaveraceæ—we should be tempted to believe it had some effect in producing their peculiar powers; but it has been shewn to be inert. What share it may have, in modifying the action of morphine, with which it is combined in opium, we cannot tell.

7. Morphine is the most, and, perhaps, the only, really active principle of opium; but, admitted as its activity is, the effects produced on the animal economy are differently stated. Some consider it purely sedative and and anodyne,—others, view it as possessing the same properties as opium.

8. Para Morphia, or Thebaine.—Majendie says it produces tetanic symptom, but his observations have not been confirmed.

9. Pseudomorphia is said, by Pelletier, to be morphica, which, by some other combination, has lost its poisonous properties.

10. Extractine.—This is supposed to be one of the active principles of opium; for, in the first place, after it has been separated by magnesia, it gives, by evaporation, an extract which produces the same kind of narcotic effects as opium; and, secondly, the effects of the known active principles are not powerful enough to refer the whole of the action of opium to them.

11. Fatty matter is inert.

But for further account of what is known respecting these principles, I must refer the Society to Dr. Pereira's Elements of Materia Medica, from which much of what I have stated has been gathered.

TO CORRESPONDENTS.

Mr. John Taylor Ross, at one time a [illegible] proprietor of this journal, and Mr. Thomas Bailey who succeeded him, have long ceased to be connected with its management or ownership, or in any other way whatever.

Mr. Thomas Wakley.—*Our correspondence with this honourable member did not prepare us for seeing our reply to Dr. Hall in the pages of the "Lancet." Mr. Wakley, in [illegible] of the editor's name as a [illegible] question, yet evident at it, he publishes the document [illegible] point of acknowledgment that our view [illegible] are the correct one, and an extorted [illegible], for which we are much indebted indeed to the hon. member's moral—cowardice. One circumstance characterizing the transaction deserves recording. The "reply" sent to the "Lancet" was one of three copies transcribed by an assistant from the original written by ourself; our own autograph—it the duty we owe to our own cleanliness—[illegible] of course leaving the "Medical Times" Office. Mr. Wakley in inserting this copy, pretends to print it exactly as in the original, and the transcriber in the hurry of copying, having omitted to punctuate, our reply is published in the "Lancet" almost entirely without punctuation, and of course—as Mr. Wakley expected—reads nothing the better for the omission. Mr. Wakley is a surgeon, a coroner, a member of Parliament—if, in addition, he were a* gentleman, *public taste would not have been disgusted with a mean, beggarly, and dirty trick like this, which judged by a rule similar to that which is [illegible] and pickpocketing, would imply a sort of character—pettifogging and unprincipled—against which we could never think character, property, or life, safely insured, if resting merely on the protection given by law on one side, and honesty on the other.*

Rhys Tudor.—*We published a paper on the usual and best modes of producing artificial somnambulism, or mesmerism, in No. 152, vol. 6.*

B. C. D.—*The delivery of medicines, and receipt of payment by the offender, should be witnessed in one or two cases by one or two respectable parties, and a statement (authenticated) of the whole affair laid before the Apothecaries Company, who might possibly, though not probably, prosecute. The case we think would warrant a magistrate in the committal of the delinquent for trial, on the charge of obtaining money under false pretences.*

A Constant Reader, G. B.—*We know of nothing to prevent a man with diplomas, from a German or Scotch source, or with none at all, practising* as a physician *anywhere but in London. Such diplomas, however give no title to practise as an apothecary.*

C. M. D.—A Constant Reader, Manchester—Pen—M. D. S.—An Inquirer—Mr. T. B. C.—Philoteus, M.D.—*declined.*

If Lewis will re-write his article legibly, we will read it, and give him an answer.

Dr. Ishmael Hall. *We have received a vast number of letters on this gentleman which we cannot use. Born, or bred, how or where he may have been, married or unmarried, honourable or not honourable in his private dealings,—on all such points it is our wish, and our resolve, to be entirely silent. We have had our say. We have dealt him his hardly earned* public *punishment, and we have no notion of using our power to inflict on him the refinements of private torture, which so many correspondents have so well-naturedly placed in our possession.*

Dr. Hodgskin's *paper announced last week is delayed to next, from want of space; as are "Serres on the Development of Organs," Dr. Scoffern on Chemistry, and a variety of other interesting papers.*

"Rough Reports from Guy's" next week.

ROYAL COLLEGE OF SURGEONS IN LONDON.

List of gentlemen admitted members on Friday, December 23rd, 1842:—

J. Drury, F. Morgan, W. Peskett, H. Horsfall, D. Sinclair, J. Percival, and H. W. King.

Provincial Journals, inserting the above advertisement twice, will receive the Medical Times (stamped edition) FREE *for a twelvemonth.*

THE MEDICAL TIMES.

SATURDAY, DECEMBER 31, 1842.

> Ut tamen et posco aliquid ———
> Orandum est ut sit mens sana in corpore sano.
> JUVENAL.

To be able to decide, when, and where, a Government should interfere by laws, is the distinguishing characteristic of a true statesman. There are some things which are best left to what may be called hap-hazard—to that practical legislation which will always be established by the humours, the interests, the passions, the virtues, of those who are concerned in them. There may thence arise minor evils, which would not occur under a more prying or stringent system—but the general result is more in favour of the happiness of society. There are other things, again, where the same test of ultimate greater good being applied, the intervention of law is imperiously demanded; and thus, while we are not indisposed to think that, in many points of social life, our laws have needlessly intermeddled with a perhaps pernicious influence—we feel strongly, on the other hand, that society, in its united governing capacity, has been mischievously inert and forgetful of its duties in reference to many other matters, which, if less "material," and less numismatical, are certainly not of less concern to social interests in their highest aspects. Among these, are most of the subjects affecting the government of our profession—not the least important of which is, that to which we are about to call attention, viz.,—BRITISH MEDICAL EDUCATION, IN REFERENCE TO LUNACY.

Lunacy, no rare visitation in any civilized country, is unusually frequent in our own. In Great Britain, exclusive of Ireland, it is calculated that we have about 25,000 lunatics and idiots. Supposing this large number somewhat equally distributed among our population, we have a patient within the visiting district of nearly every practitioner in the kingdom. The important question arises—How are practitioners prepared by their education for such charges? We know that lunacy is no ordinary malady,—that, while the deprivation of the noblest of earth's attributes, reason, and the loss of health, of liberty, of manhood, and of citizenship, which it entails, make it the most calamitous of human afflictions—the variety of its phases—its occult situation—its mysterious origin and development, make it among the least amenable to the resources of medical skill. It is not only a calamitous malady to the unfortunate patient, but it carries its bane to his whole family; and, while covering it with the mourning of affliction and shame, its evil omen darkens the future of the young and unborn. Thus frequent, thus vital, thus widely calamitous, it must yet, more or less, come before every medical man: he must see to it—advise on it—act for it—and how, we repeat, does his education prepare him for the serious responsibility? The answer is too ready. A few years since, there was not an institution in the kingdom where the medical student was brought in contact with the disease; and now there are but three (Hanwell, St. Luke's, and the Gloucester Asylum) where a very few pupils can purchase the privilege of witnessing the medical practice.

We know that there are some physicians who have acquired a well-deserved distinction, and who devote themselves exclusively to this branch of medicine—but the fact that they are few, that they principally reside in town, and that they are rarely called in when their experience might be of most service, when the premonitory symptoms are first shewing themselves—makes the abilities of these gentlemen in no way impair the necessity of greater competency to advise in these sad cases of visitation, on the part of those in whose hands resides the whole medical attendance of the kingdom—we mean, the General Practitioners. In lunacy, as in every other part of medicine, the especial cultivation, by the few, leaves the general cultivation, by the many, as urgent as ever.

In this matter, as in most others concerning the *regulation* of education, the French, though lately retrograding, have

been far in advance of us. Dr. Combe, who has paid to the study of lunacy an attention and ability which well qualify him as an authority, gives us this important testimony :—

The safety and even advantage to the patients, from the admission of pupils, is fortunately not a matter of mere conjecture. I had the good fortune to attend the first clinical course ever given on the subject of insanity, by the celebrated Esquirol, at the Salpêtrière at Paris in the spring of 1819. I anticipated confusion and excitement, from the indiscriminate admission; for all pupils who chose to attend went round with Esquirol, when he visited the patients before lecture. There was no restriction whatever, except that he occasionally went into a cell with only one or two of the clerks, where he thought the crowd would excite too much. But instead of that, the patients seemed amused and interested, and during the whole three months, I never saw one instance of any excitement, or other unfavourable result. On the contrary, the visit was expected with pleasure by many, and Esquirol's kind, friendly way of addressing them, and then turning round, to make a good-natured remark to the students, had a manifestly soothing and beneficial effect. Of course, the students behaved with propriety and good-humoured forbearance also, and consequently were not regarded with the suspicion, which used to be excited in the olden time by the admission of visitors, who came to stare as at wild beasts. The number of students who went round with Esquirol at that time, averaged from thirty to fifty, and no confusion of any kind occurred. I visited Charenton and Ivry with Esquirol in the autumn of 1831, and up to that time, he gave the same testimony concerning the advantages, to both patients and pupils, from the above plan; and I believe, at Bicetre also clinical lectures have been given, and students freely admitted for some years. I have devoted much attention to insanity, ever since I attended Esquirol's clinique in 1819, and every day's experience has added to my conviction of the necessity, even for the advantage of the patients, of admitting pupils to our asylums, under proper regulations. The attending physician would, of course, prohibit access to any who might in his opinion be injured by it, just as is done in the case of acute diseases in ordinary hospitals. If there was any chance of an overflow of pupils (an unlikely thing in my opinion), it would be easy to divide them into several classes, each to have admission to certain wards only. It is no advantage to a student to have scores of patients under his eye, at the same time. Infinitely more instructive is it, to confine his observations to such a number, as his mind can easily embrace, so as to digest and comprehend their peculiarities. To benefit by his opportunities, he must not only observe, but think and compare, and in doing so, the physician may help him most efficiently, by a few judicious remarks.

Dr Webster, who has recently visited France, mainly to acquire information on this interesting subject, tells us, in his recently-published pamphlet, which may be cordially recommended to our readers :—

Esquirol gave lectures on mental diseases at the Salpetriere; subsequently M. Mitivié, one of the present physicians to the hospital, delivered lectures on the same subject: but whatever may be the importance to medical men to possess an adequate knowledge of this class of diseases, it must be confessed that of late the study of insanity, by lectures and clinical instruction, has, notwithstanding the very great impulse given to this part of medical education at, and subsequent to the time of Esquirol, been much neglected in France, both by masters and students. However, as the new law of 1838, and the ordonnance of the King of 1839, impose upon all medical men, and especially upon those who may henceforward be appointed physicians to lunatic establishments, the necessity of being well versed in a knowledge of the principles and treatment of mental diseases, a fresh impetus has been given to the subject. Mr. Baillarger, one of the physicians to the Salpetriere, commenced a course of lectures on diseases of the mind in 1841, including clinical instruction, illustrated by patients treated in the Salpêtrière. On these occasions, M. Baillarger used to introduce to the students the insane person, upon whose case he lectured, and no bad effects ever followed these demonstrations. Indeed, upon this point, it is impossible to give better evidence than the subjoined extract from an official report made by the director of the Salpêtrière to the supreme council of the Parisian Hospitals, in consequence of that officer being deputed to attend all the lectures given by M. Baillarger, and to see whether or not the clinical illustrations were detrimental to the insane patients introduced to the class. M. Censier's report, which I am fortunately able to give, has the following paragraph:—

"From forty to sixty auditors usually attended the lectures, all in excellent order, and everything went on with the greatest propriety. The patients did not appear to feel any disagreeable impression from finding themselves in the presence of the public, and they had no direct communication with the students. In short, I can affirm that, in consequence of the precautions taken by the council, and the prudence of the professor, the clinical conferences of M. Baillarger have been profitable to science, without producing any inconvenience to our patients, who were called upon to appear."

These lectures were, I know, much appreciated by the students, who were, throughout, zealous in their attendance; and the periodicals of the day, and the medical profession, thought them creditable to the professor, as well as highly useful to the young practitioner. Nevertheless, and in opposition to the above most favourable report from the Director of the Salpetriere, who had no object whatever in sanctioning any proceeding injurious to the afflicted patients under his jurisdiction, the supreme council of the Hospitals of Paris, last spring, did not allow M. Baillarger to resume, at the Salpêtriere, the clinical illustrations of his course of lectures on mental diseases, as in the previous session. In consequence of this refusal, which, to say the least, was both arbitrary in principle, and injurious to science, M. Baillarger gave no clinical demonstrations in 1842; and his lectures from necessity only embraced the general principle of mental diseases, their nature, and treatment. This proceeding on the part of the supreme council of the Parisian Hospitals, may appear singular, and quite inconsistent with the liberality hitherto characterising most of the public functionaries connected with education in Paris, and in France. But new views seem to have taken possession of the minds of some members of the above Council, since that body not only refused permission to M. Baillarger to continue his clinical lectures at the Salpêtriere, but they have also, it is said, thrown difficulties in the way of students attending cases of midwifery; and it was even feared they would interdict the autopsy of all patients dying in the Parisian Hospitals, unless with the permission of friends, where that was practicable. However, the whole medical profession rose as one man against such an innovation, when it was first whispered abroad; so that the proposition, if it had ever been in contemplation, was not seriously brought forward. Nevertheless, the above circumstance shows the feelings actuating some members of the Council, and as that body, unfortunately for medical science, contains only one professional man among seventeen noblemen, deputies, and high officials, the fact of not continuing the permission granted the previous year to M. Baillarger, appears the less remarkable; but, perhaps, next season, they may be led to reconsider their decision, so as to give every facility to the promotion of sound and practical education on this most important branch of the healing art.

At Bicêtre, also, lectures, till very recently, were delivered by M. Ferrus, who numbered 151 pupils on his list.

At Salpêtriere, at Bicêtre, and at Hanwell, the plan of giving clinical lectures has succeeded: the patients have been benefitted by the novelty—the pupils improved—the physicians stimulated to more active exertions, —why shall it not be tried more extensively? Is it not a matter worthy of the consideration of the governors of all such institutions, and, above all, of a paternal Government, to whom the prevention of a fatal malady, of so hereditary a tendency, ought to be an object of primary importance?

REVIEWS.

A System of Practical Surgery. By WILLIAM FERGUSSON, F.R.S.C., *Professor of Surgery in King's College, London; Surgeon to King's College Hospital, &c., &c.*

HOWEVER much we are inclined to review in a fair and even favourable spirit, the useful little work before us, we are constrained at the very outset to say that we are surprised that the author should have been either so vain or so imprudent as to affix the dignified title of "System" to his production. The work is neither *systematic* as a *whole*, nor in the disposition of its *subordinate parts.* It is simply a Manual, or Compendium of Practical Surgery, and from the lucid manner in which the subject is discussed, as well as from the excellence of the wood-cuts, by which the text is illustrated, it cannot fail, we think, of being popular. The elementary nature of the work precludes a lengthened analysis in our pages. Our survey must, therefore, be of a general kind. The author divides his subject into *five* parts. In the *first* or introductory part the "*elements*" of practical surgery are adverted to, and then a part is devoted respectively to the upper extremity—to the lower extremity—to the heart and neck—to the chest, abdomen, and pelvis. Our author seems to have aimed not at explaining or elucidating the more difficult branches of surgery, but in furnishing an epitome of facts regarding the treatment of all the usual or common surgical affections; and he has successfully accomplished his purpose. His descriptions of diseases, so far as they go, are generally correct, and the treatment he inculcates, consistent with

the most approved practice of the present day, and either founded on the basis of his own experience, or on a critical knowledge of the opinions and practice of others. As illustrations of the nature of the work and as favourable instances of our author's manner, we shall transfer to our pages his opinions on two very important subjects; the comparative merits of amputation by the circular incision, and by flaps, and the treatment of vesical calculus. With regard to the first our author remarks:—

"It is impossible to argue that non-union, suppuration, protrusion of bone, exfoliation, tumours on the ends of nerves, and so forth, have not followed the circular operation,—all these evils must be admitted; but the same results have occurred from the method by flap. It is, indeed, difficult to imagine why the circular incisions should cause all the above troublesome results, whilst the flap method should avoid them: for my part, I shall not feel convinced on the subject, until I see that such is really the case,—until I see a certain number of amputations by these two methods, done by the same surgeon, or by two who are equally competent, and find all the evils on one side, and the advantage on the other. It seems to me that some such proof as this is still wanting for the surgeons of the present day. It is not to be overlooked that some of the most distinguished in the profession have almost invariably performed the circular operation, and surely all the stumps formed by these gentlemen were not so bad as the advocates for the flap would lead us to suppose. I believe I am correct in stating that, even in the present day, more amputations are done by the circular than by the other mode; and, fifteen or twenty years back, I imagine that not one surgeon in fifty ever thought of performing any other operation than the circular. I know of excellent practitioners in large practice, who have never seen the flap, and can vouch for the excellence of the stumps made by these gentlemen.

If a circular operation is improperly performed, the whole catalogue of evils may result; but the same may ensue from the method by flap. I do not here speak from conjecture, for I have seen as thorough protrusion of bone after a flap operation as after a circular. If, in the latter, the incisions are made directly down to the bone, no adequate provision being made for covering its cut end, or if the operator has failed in doing so, then there is no calculating what may follow: if, by the other operation, the flaps are not made well,—too short, and selected from improper parts of the limb,—the same evils may ensue. In short, in so far as my experience goes, the evils resulting from one operation may be as great as from the other, according to the manner in which each is performed, the nature of the coverings, the condition of the parts, or of the constitution: and all, too, must be the result of a badly-performed operation by either mode. The latter circumstance constitutes, I believe, the main part of the difference between the two, as a circular operation is much more likely to be ill-done than one by flap. It is, in fact, a more difficult proceeding, or at all events there is greater chance of a mistake occurring in the one than in the other.

The chapter on stone in the bladder, and on the treatment by Solution, Lithotrity and Lithotomy is both full and satisfactory, and tends to impart a very favourable view of our author's judgment and scientific and literary acquirements. We are sorry we cannot transfer the whole chapter to our Journal, for our readers would find it both interesting and useful. On the *solution* of the stone our author observes —

Various solvents have been used on these occasions, from simple water to nitric acid—the latter being so weakened as not to injure the mucus lining of the bladder. Hales was aware of the power of a solution of carbonate or subcarbonate of soda over certain kinds of calculi, and the efficacy of the Vichy water, whether as an internal or as a local remedy, depends, in a great measure, on the bicarbonate of soda which it holds in solution. Dr. Rutherford used lime water; Dr. Ritter, caustic potash; Sir Benjamin Brodie, nitric acid—all, of course in a diluted state. Dr. Hoskins, of Guernsey, affirms that he has discovered (by an elaborate process, if I understand him aright) an effectual and safe solvent for phosphatic calculi, and only awaits the result of some trials now making with it, to give the formula publicity. Gruithuisen, although seemingly impressed with the virtues of simple water, entertained the idea that the strength of its current might have no inconsiderable influence, and so (perhaps with more mechanical ingenuity than surgical discretion) proposed to convey a stream through his double catheter by a tube communicating with a reservoir on the top of a two-story house! Professor Jurine, of Geneva, was of opinion that injections of water had caused such a change on a large calculus in one of his female patients, that it broke down into many fragments.

This method of treating stone may now be more favourably resorted to than in former years; for, instead of the periphery alone being attacked, the object may be previously broken into fragments, whereby a vast extent of additional surface may be exposed to the dissolving and disintegrating influence of the menstruum.

The fluid may be carried into the bladder by means of a catheter and syringe,—the latter such as is used for hydrocele,—or one made longer on purpose, or a caoutchouc bag with a proper nozzle may answer. A double tube so constructed as to resemble externally a common catheter had better be used, whereby, if it is desired, a continued stream may be kept up. For this purpose Hales, Gruithuisen, and others, used the instrument like a syphon,—a dish with a communicating tube being kept above, another below. A Read's syringe may be applied for the purpose, and such an apparatus I have had by me for many years. A flexible caoutchouc catheter may be used on these occasions; silver, however, is generally preferred; and when Sir Benjamin Brodie injected nitric acid, the catheter was made of gold. Mr. Weiss has lately constructed some instruments in the form of those which I have used, and had them gilt so that they will resist the action of any ordinary solvent.

With regard to lithotrity we have the following remarks:—

In modern times the methods of drilling, percussing, and crushing the stone into sand or into such small fragments as to pass away spontaneously, or to be removed by appropriate instruments, have been devised, proposed and carried into execution, with the excellent motive of saving the necessity for resorting to a cutting operation, which until within these twenty years was deemed the only certain method of cure,—although one attended with so much difficulty and hazard as to make it in every respect a last resource.

Like many other novelties, lithotrity has undoubtedly been too much vaunted by its professed advocates and performers; but it is equally clear that in many instances it forms an admirable substitute for lithotomy. Notwithstanding the reputed success of Civiale, it seems to me that in the present stage of its history we have not sufficiently authentic data by which to determine the comparative safety of lithotrity to that of lithotomy; but regarding the applicability of the former, and even its superiority in many instances, there need be no doubt. Years must yet elapse, and the operation must be tested in our public hospitals by the same class of surgeons as those on whose proceedings the statistics of lithotomy have been founded, before an unbiassed professional judgment can be given on the subject.

There are certain circumstances adverse to the success of lithotrity, which should always be inquired into, ere it is determined to resort to this operation. The diameter of the urethra before the age of puberty is most unfavourable, both on account of the smallness of the instrument which must of necessity be used, as also that the fragments cannot pass away in such large portions. Besides, in early years the urethra and bladder are more irritable—less callous to the contact of the needful apparatus. At any period of life a small urethra is objectionable on the above grounds, whether there be stricture or a natural want of development. Any obstruction to the free passage of instruments or of urine, must be a great hindrance, and in advanced years the natural enlargement of the prostate, and what may be termed the diseased enlargement, present impediments which the utmost skill may not be able to surmount. Should the bladder be sacculated—a condition which can scarcely be ascertained on the living subject—the chances of success will be further diminished; for, supposing the stone to be broken into various fragments, the probability of some of these lodging in such pouches, must always render the results of the proceeding uncertain. But from my own experience I should say, that the most formidable objection to lithotrity is the apparent irritability of the urinary organs: if the patient does more than wince while being sounded; if the application of the steel to the urethra seems to occasion pain—I mean more than that sensation which patients usually have on such occasions—if the mucous surface of the bladder is so tender as to cause the contact of the instrument to be borne with difficulty; and if the muscular fibres are excited to such violent contraction as to occasion the evacuation of the fluid contents along the side of the instrument, or to excite an irresistible desire to micturate, then assuredly the circumstances are peculiarly unfavourable to the proceeding. A stricture may be cured; the natural calibre of the urethra may be increased by dilation; even in certain cases the objectionable state of the prostate may be in some measure overcome by means of large catheters, scoops, and proper position whilst voiding urine; but the irritability—excitability, I may call it—and tendency to inflammation, which are almost certain accompaniments, cannot so readily be coped with. It is very certain that in some instances the organs become more callous after the application of instruments; but it is equally certain that the conditions above referred to often rather increase than otherwise, after the first, second, or third sitting; and, in addition, that in certain cases, where the conditions have not been by any means conspicuous before the operation, they have been so developed as to retard the whole proceedings, making each succeeding attempt more painful than the preceding one, so that the cure (if cure it can be called) is ultimately completed amidst the most miserable sufferings—miserable to the patient, and disheartening to the surgeon,—when, from time to time, as a favourable opportunity presents, he has again to resume his attack upon the original cause of the suffering—the stone—which may at this time be already comminuted into a variety of fragments.

While I do not hesitate to assert that the above picture is by no means overdrawn, it must be admitted that the effects are very different in the majority of cases in which lithotrity is properly applicable; and here, be it remarked, there is a vast difference between such examples and those in which, unfortunately, it is attempted; for when the circumstances are favourable, viz., when there is a large and callous urethra, a capacious and apathetic bladder (if I may so call it), with good muscular power, a healthy prostate, and a small or moderately-sized stone, the operation may be done once, twice, or as often as may be required, with as little annoyance to the patient as if he were only undergoing the treatment for stricture.

Our space will not admit of more extended extraction from the work.

As a manual of practical surgery, we can recommend it to the medical student. The work is of too elementary a cast to *add* much to the well-earned reputation of its learned author, but assuredly it will not diminish it; and we hope it will prove the happy forerunner of those more original and splendid efforts in surgical science, of which we *know* him to be capable.

Chemical Manipulation, &c. By MICHAEL FARADAY, F.R.S., &c. (Third Edition Revised.) London: John Murray.

WE know of only one class of persons who will not hail the appearance of a new edition of Faraday's Manipulation with delight. We allude to the second-hand booksellers, who, during the last two years, have sold such old copies of the second edition as they could procure, for double the price at which the work was originally published!—Few authors can boast of a similar compliment. In the preface to this edition, the author states that it is little more than a reprint of the preceding one,—"circumstances of health and occupation prevented its being otherwise." The validity of this highly-gifted and amiable philosopher's plea is, unfortunately, so well known, that criticism on the subject of omissions relative to manipulations of very recent origin, would be unfair,—still our regrets are not the less, that the delicate processes of organic chemistry, as perfected in the German school, and the management of recently-invented Voltaic combinations, together with the process of Electrotype, are not touched upon in the third edition of this very valuable treatise.

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"*Health of Towns*."—*An Examination of the Report and Evidence of the Select Committee, &c.* Snow.

THIS is a pamphlet defensive of "the vested rights" of dissenters to their town burial-places. Two positions are maintained with equal boldness,—the harmlessness of the present system to public health, and the injury to dissenters' interests of any such measure as that proposed by Mr. Mackinnon. The author, we think, succeeds in establishing the latter position — as he egregiously fails in his attempts to raise the former. There is much power of satire, a happy command of ridicule, with no want of ammunition and apt illustration, spread throughout the book,—but no abilities can varnish over the horrors of the present system of interments, or disprove their mischievous influence either on morals or health. If they could, we should ask with the writer, and with more reason, "Has common sense abdicated her ancient throne in favour of a new occupant?" The appearance of this pamphlet is one of the indications of the vigorous opposition prepared by the dissenting body to Mr. Mackinnon, and attests the wisdom of an early remark we made on the imprudence of raising, as he has done, needless resistance, by interfering with more interests than were *necessarily* opposed to him.

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The Mineral Springs of England. By EDWIN LEE, Esq., M.R.C.S.

WE have a precursory favourable judgment of a book which, like this, is small, though on a big subject—and after perusal, in this case, has justified the prepossession. Mr. Lee's *coup d'œil* of British watering-places is that of a master. Everything unimportant in his subject escapes notice—while everything which is of value to the invalid, or the medical man, he seizes with intuitive sagacity, and places before his readers, with a precision and concise elegance, which makes his little book a treat even to the fastidious scholar. There is, however, one part of Mr. Lee's arrangement which does not please us. We have, first, a preface—secondly, a postscript—thirdly, an "*avant propos*"—and, fourthly, thirteen pages of "Introductory Remarks," before we get to the *book* itself,—and, finally, when the "book" is finished, and the printer's name duly announced, we have an extra page given on Artesian Wells, for which awkwardly supplementary form there appears no excuse, inasmuch as it bears date, March, 1840, while the preface is dated, December, 1840. The book is thus made (erroneously, we believe) to begin its career with a shew of literary dandyism, and finishes it with a demonstration of negligence far too slovenly to be graceful. All this, however, may be mended in a second edition, which we heartily wish the author. As a specimen of his style, we give his remarks explanatory of his views on the action of mineral waters on the system. Our readers will observe that the *reading* of the author, and that of Dr. Marshall Hall, have run much in the same direction.

"Lesion of the solid parts of the body, and changes of structure, have been too exclusively considered in estimating the diseased condition of parts, while the altered state of the fluids, and of the nervous influence from which so many, particularly chronic diseases, originate, has been, from the days of the humoral pathology until lately, too frequently overlooked, or regarded only in the light of an effect. Indeed, a late distinguished physician considered a morbid state of the blood, and of the nervous substance, as the sole cause of chronic diseases, and observed, 'Physicians are in the habit of regarding the solid parts as the primary agents of life, to which the fluids are subordinate; but, on the contrary, the blood and the nervous substance are the primitive and essential instruments of all the organic functions, while the solid parts occupy an inferior grade, and are but of secondary importance in disease. The elements of general and internal disease, or the morbid predispositions which form the most important objects of treatment, may then all be reduced to vitiated states (*dyscrasies*) of the blood, and of the lymph, or to derangement of the nervous system.'"*

The attention of the profession, both in this country and on the continent, has, however, of late years been more particularly directed to the primary changes in the functions of the nervous system, and in the blood and secretions, to which the more advanced state of organic chemistry has materially contributed, and has tended to elucidate the pathology of several diseases. Thus, it is now ascertained that the quantity of fibrine is increased in acute inflammations, and also in phthisis; in typhus the blood is watery, and in the last stage of this disease appears scarcely to contain any fibrine. In most chronic diseases the quantity of fibrine in the blood is diminished. The blood of females is more watery than that of males, and that of children and old persons is also more so than in healthy adults. According to the microscopical investigations of Schultz, the globules of blood are not entirely fluid, as has been supposed, but are hollow bladders into which air is absorbed in the process of respiration. By the continued use of alkalis the blood is rendered more fluid, the coagulation of its fibrine is prevented, and its colour becomes brighter; on the other hand, the use of nitric acid produces an inflammatory coat; after the exhibition of certain narcotic substances, the blood becomes more fluid and darker coloured. The quantity of iron is in direct proportion to that of its red globules; by the abstraction of blood, the iron is diminished, and by the exhibition of the preparations of this metal, the fibrine is increased, and the blood assumes a brighter red colour. According to Dr. Carswell, tubercles are never formed when the blood is not in a diseased state. Crystals of the salts eliminated in gout have been found by Jahn in the blood of gouty patients.†

The experiments of MM. Prevost, Dumas, and Müller, have thrown considerable light upon the action of particular substances on the blood. Thus, it was observed in a frog, that when a drop of water comes into contact with a drop of blood, the globule, which has naturally an elliptical flattened shape, becomes round, and its course is accelerated. When, however, the experiment is made with a saline solution, as common salt, or subcarbonate of potass, in water, no alteration of form occurs. The dimension of the globule is altered by contact with particular substances; thus liquor potassæ, though it does not alter the form of the globules, renders them smaller;—a minute quantity of pure soda added to the blood abstracted from a vein prevents its coagulation. Acids produce increased oxidisation, coagulation, and redness of the blood, whereas the action of alkalies is more solvent, rendering the blood thinner and more liable to decomposition. It has been also demonstrated by experiments on rabbits, that iron is absorbed into the blood only in a limited proportion, the remainder of the quantity given being excreted.*

Alterations in the quantity and chemical composition of the different secretions, it is well known, may depend upon the influence of the nervous system, and of an altered condition of the blood, either occurring from morbid causes, or from the introduction of particular substances into the circulation: of which the flow of tears from mental emotion, the change in the urine of hysterical patients, increased alkalinity of this secretion from injury or disease of the nervous centres, the calcareous concretion deposited in the joints of gouty persons, may be mentioned as familiar examples; but the agency of the organic nerves in producing these changes, both in the blood and secretions, and in inducing various diseased states, is not in general sufficiently considered. Scirrhous tumours, for example, are not unfrequently caused by depressing emotions, as grief, anxiety, &c., acting primarily upon the cerebro-spinal system, and consecutively upon the capillary vessels of the part; so, in like manner, indurations of viscera, and other local functional and structural changes of organs, may be induced by derangement of the functions, or by direct lesion of the sympathetic or organic nerves, which, united by numerous inosculations with those of the cerebro-spinal system, extend their influence to all parts of the body, and which have been proved, by the experiments of M. Brachet, to preside over the action of the capillary vessels, and of the functions of nutrition and secretion. An anormal condition of the organic nervous system, or part of it, frequently depends upon alteration of the quantity or the quality of the blood by which it is nourished; and when this is the case, it does not fail to react upon, and increase the disordered condition of the vascular system. When, several years ago, it was observed that a section or mechanical lesion of the branch of the fifth pair of nerves supplying the eye produced increased vascularity, with subsequent sloughing of the cornea, acute inflammation was supposed to have been produced by the experiment, and to have given rise to this result. A similar effect, however, was subsequently found to ensue in animals which were fed upon sugar or other substances in too concentrated a state to afford them proper nourishment; and M. Brachet clearly demonstrated that the circumstance did not depend upon inflammation, but simply upon mechanical distension and consequent obstruction of the circulation through the capillary vessels, from their privation of nervous energy. He observes, "Let us remember that the ganglionic nervous system presides over the secretions and capillary circulation. When, therefore, in consequence of lesion of the ganglionic nerves of an organ, its secretory and capillary action are paralysed, it does not cease on that account to receive blood, as this fluid is forced into the vessels by the contraction of the heart; but no longer finding in the capillaries the energy necessary for their reaction, it gradually distends them and remains almost in a state of stagnation, puffs up (*boursouffle*) the parts where the textures are sufficiently lax to admit of it, and determines redness and swelling as in the conjunctiva."†

* Kreysig. Des Eaux Minerales Naturelles et Artificielles, &c.

† Schmidt's Jahrbücher der Medicin.

* Schwartze, Allgemeine Heilquellenlehre, Leipsic, 1839.

† Du Système Nerveux Ganglionaire.

Hence we may see that various states which have been considered as inflammatory, are not so, but depend upon impaired nervous energy, and why depleting measures would be prejudicial, while those calculated to give tone to the nervous system would be most successful; why the spleen should be so frequently congested after attacks of intermittents, while the more dense texture of the liver is comparatively seldom affected, and why quinine tends to reduce the splenic enlargement; why the congested state of the vessels of the eye in that state which is termed strumous ophthalmia should continue so long without producing serious injury; and why, though the local abstraction of blood may occasionally be of service in relieving the congestion, its too frequent repetition predisposes to relapses, which are best prevented, and a cure most permanently effected, by tonic remedies and local stimulants, which strengthen the system generally, and excite the torpid and relaxed vessels to action. Chilblain is another illustration of the same principle; congestion taking place in parts of the body remote from the centre of circulation, when their nervous energy has been depressed by cold. Dropsical effusions also very frequently occur in the same manner, the serum of the blood transuding through the capillaries into parts where the cellular texture is lax, and whence the blood meets with obstacles in returning to the heart. Softening of the nervous centres, and paralysis, doubtless occur not unfrequently from the same cause, viz. deficiency of nutrition of their substance, from the nervous energy of the capillaries being impaired, as is pretty evident by these diseases most generally occurring in elderly persons, and those in whom the vital powers have become depressed. I have met with several cases of paralysis consequent upon excesses, from the influence of malaria, &c., or occurring idiopathically, in which the too indiscriminate use of blood letting, and other depleting measures, had been extremely prejudicial, and in which the subsequent use of a tonic regimen had been productive of the highest benefit. That a diminution of the organic nervous influence of the capillaries of the nervous centres is frequently the cause of congestion and its consequences, is clearly shown by an experiment of Brachet. After removal of the upper cervical ganglion in a dog, the eyes became red and tumefied, as in the other experiments, coma supervened, and after the animal's death the capillaries of the brain and its membranes were found to be gorged to the utmost with blood, on which Brachet justly remarks—"Hence many diseases, apparently of the brain, have, in fact, a very different origin. Suppose the occurrence of an analogous instance to the above-mentioned experiment—symptoms of disease of the brain takes place, the post-mortem examination demonstrates pathological alterations in this organ, the consequences seem to be natural, and yet it is nothing of the kind; *the brain has only become diseased secondarily*, the organ truly affected is the ganglionic system, the action of which being paralysed produced the phenomena which the brain presented. If the diminution or the abstraction of the influence of the ganglionic system could so frequently occasion the phenomena observed in the preceding experiment, may we not reasonably infer that the same thing will take place whenever this influence is modified by any pathological affection of the upper part of the ganglionic system?"

Extirpation of a Dropsical Ovarium. —Mr. Henry Walne gives, in the *Medical Gazette*, a successful case of this kind, where the removal was effected by the large incision. The operation, which appears to have been modelled on those performed by Dr. C. Clay, (as given in recent numbers of our Journal) took place on Nov. 7th. On the 11th, bad symptoms appeared, which, however, were overcome by the 13th; and, by the 29th, the patient felt quite well; the wound being healed, with the exception of a seton-like opening at the lower end of it.

COURT OF COMMON PLEAS, Wednesday, December 21.

(*Sittings at Nisi Prius, at Guildhall, before Lord Chief Justice* Tindal *and Special Juries.*

BEALE v. SELF.

Sir T. Wilde, Mr. Hoggins, and Mr. E. James conducted the plaintiff's case, and Mr. Serjeant Talfourd and Mr. Butt that of the defendant.

The action was for slanderous words spoken of the plaintiff, who is a surgeon and accoucheur residing in Bedford-square, Stepney, by the defendant, who is also a medical practitioner, and a near neighbour of the plaintiff, on different occasions in the month of December, last year. The defendant pleaded—first, the general issue; secondly, as to so much of the third count of the declaration as related to the speaking of the words that a Mrs. Neek was improperly treated by the plaintiff, that she did receive improper treatment; and, thirdly, as to the use of the words mentioned in the second count, "that the plaintiff was a dissecting room beadle," that such words were true.

Sir T. Wilde stated the case to the jury, and called the following witnesses:—

Mr. James Norris.—On the evening of Wednesday, Dec 29, last year, I was at the house of Mrs. Hough, between 6 and 7 o'clock. Mr. William Rowland, collector of poor-rates, was also there. The defendant was present. Mr. Rowland said he had heard that the defendant had been to Lambeth street police court, and that he knew what the defendant had been there about. Some conversation took place between Rowland and the defendant about an inquest which was to be held on a person whom I afterwards ascertained to be Mrs. Neek. The defendant said that the plaintiff, Mr. Beale, was incompetent to practise as a medical man. The defendant said to me, "If you were ill, would you call in a waggoner to attend you?" I said that Mr. Beale was a surgeon. The defendant replied, "He has never been anything but a surgeon's beadle to a hospital or dissecting-room," and that Mr. Beale was not a surgeon.

Cross-examined.—I have been told that an action is pending against the plaintiff, which action has been brought against him by the Apothecaries' Company for practising without a certificate from them.

Mr. Edward Porter examined.—On the 27th of December last I had occasion to go to Lambeth-street police-court, and there I saw Mr. Self, the defendant. He said, "You are about to summon a jury on a coroner's inquest upon Mrs. Neek." He said, "You have seen Mr. Dale this morning; my name is Self." Mr. Dale (the defendant in a similar action) had before this mentioned Mr. Self's name to me. The defendant said, "The deceased Mrs. Neek, has been very improperly treated by Mr. Beale, who is no surgeon." I asked him what he particularly wanted with me. He said it was about summoning the jury. I asked if he wished to be one of the jury. He said I might summon him. I filled up a summons in the police court, and gave it to him then and there. I had a warrant from the coroner to call the jury on the 30th of Dec. I told the defendant that Mr. Dale had told me that morning that Mr. Beale was nothing but a quack, and I said, "I hate quackery as much as any one, and you may be one of the jury." I also said, "I will summon a jury of doctors, if you will give me a list of those who are properly qualified." It was agreed that I should call on the defendant, previously to summoning the jury for that list. On the morning of the day for which the inquest was summoned, I called on Mr. Self for the list. I asked Mr. Self if he had prepared the list, and he said "No; we have ascertained that Mr. Beale is a surgeon, and we intend to let the affair take its natural course." I said, "Then I shall summon a respectable jury," and Mr. Self said he should attend. The coroner's inquest was held that evening before Mr. Baker. Mr. Self was not on the jury. Mr. Beale was there; so was Mr. Bennett, and Mr. Farrer, and Mr. Dale. Mr. Neek, the husband of the deceased, was present. Mr. Self put some questions to Mr. Beale, but not so many as Mr. Dale did. Mr. Pearce, a medical man, also asked some questions. I was myself on the jury. The verdict was "Natural death," and the jury said they thought Mr. Beale had treated the deceased in a very proper manner. I have not seen the defendant since. I was led to believe, from what Mr. Self had told me, that Mr. Beale was not a surgeon.

Cross-examined.—I am an auctioneer and appraiser, and summon the jury for the constable, who is unwell. I never saw Mr. Beale till I summoned him to attend.

Mrs. Letitia Sarah Josephine Burr examined.—I live in King street, Stepney. My husband is an officer in the Customs. In December, 1841, I expected to be confined. I sent my sister on the 29th of November to Mr. Beale's house, to tell him to hold himself in readiness to attend me. I know Mr. Self as a medical man, who had attended me twice. Mr. Beale called upon me on the 2d of December. After this Mr. Self called on me, and I told him that I had intended to send to him, as I did not think it right that he should be kept in ignorance that I did not wish him to attend me in my coming confinement. Mr. Self said, "Why? could I find any fault with him? I told him no, I did not. He then said, "Did I blame him for anything that had happened to the children? I had lost some children before this. I told him no, I did not, it would be very wrong to do so. Mr. Self asked me to consult my husband on the subject, and said he would call the next day, and hear what I had to say. The next day he called. I told him I had made up my mind to call in the gentleman I had mentioned. I had said the day before that I should call in another gentleman. He then asked it was a fair question, if I would tell him whom I intended to employ? I told him I would make no secret of it; it was Mr. Beale, of Bedford-square, Stepney. Mr. Self said he thought it was something of that kind. He said, "Was I aware that Mr. Beale was an unqualified practitioner, and liable to be prosecuted every day? I told him that I was not aware of anything of the kind, and I knew he had attended my father for some time; and that my father and friends generally wished me to employ him. He asked me whether my father intended to give me anything, because, if so, he had better do so when it would be of some good to me, and not wait till I was dead. Mr. Self said if I wished to change, he would recommend some one to me of experience, but not Mr. Beale, who had not any experience. He said I was to tell my husband and my father that if any thing happened to me, he would call a coroner's inquest on my body, and have the matter properly investigated. He said, "There was no such person as Mr. Thos. Beale, a surgeon." He said that, as if he believed that there was no such a person. He had said before that Mr. Beale had been a beadle to a hospital, and that he had had no proper medical education. I asked him what a beadle was, and he said it was a man who had to clear away the guts and garbage. He said that there something on foot about a coroner's inquest. The same evening I was taken ill, and sent for Mr. Self. I did not send for Mr. Beale, in consequence of what Mr. Self had said. My confinement took place on the 17th of Dec. The conversation I have been speaking about took place on the 3d of December. I afterwards sent to Mr. Beale, and explained to him why I had not called him in. This was about three week after the 17th of Dec. At that time I informed Mr. Beale what Mr. Self had said of him. Afterwards I told Mr. Self that I had seen Mr. Beale. Mr. Self said, that he had since ascertained that Mr. Beale was a surgeon. I said I was very sorry I was implicated in it, and that I had rather it had been any other person. Before this I had been told that my evidence would be required: that caused me to make the observation. Mr. Self said that I had no occasion to say anything. Afterwards he said that he had heard I had been with Mr. Beale to his lawyer.

Cross-examined. It was either in the latter part of January or the beginning of February that I went to Mr. Beale's lawyer. I have been twice there in all. What I said was written down, but I did not require it. Mr. Beale has attended my father, and I think his complaint was erysipelas. He also attended my sister, but I do not know what her complaint was. Mr. Beale sent medicines. When Mr. Self told me that he had discovered

that Mr. Beale was a surgeon, he said that Mr. Beale became a surgeon in July 1844. He said he had nothing to say against Mr. Beale as an accoucheur, because anybody had a right to practise midwifery, but he said he had no right to administer medicines.

Re-examined. When he said this, he added that I might as well employ a midwife, for that if I did, and anything was to happen, I could soon send for a medical man, but that when a gentleman was employed one ought to be able to place confidence in him. I told Mr. Beale's lawyer that Mr. Self had spoken to me on the subject as a friend, and I, therefore, declined to say all that I have said to-day. I paid a guinea for my confinement, exclusive of medicine.

Mr. C. Neck examined.—I am a schoolmaster, and live in Philpot-street, Commercial-road. I have known the plaintiff about four years. I am the husband of Mrs. Neck, who died on the 25th of December last. Mr. Beale had attended her. She had been ill just nine days. Her illness was sudden, and was owing to a twisting of the bowels, or something of that kind. Mr. Beale, so far as I could judge, treated her skilfully for that disorder. Mr. Beale brought Mr. Farrer to see her. Mr. Farrer is a surgeon and apothecary in the neighbourhood. Mr. Beale attended my wife all the time of her illness but the fourth day, which was Sunday. Mr. Beale left me at 10 o'clock on the Saturday evening, under the impression that he had done all that could be done under the circumstances. On the Sunday morning Mr. Beale's son came to ask how Mrs. Neck was, and I told him she was much worse, and I wished him to go for his father directly. He said that his father had gone by the first boat that morning to Gravesend. We then sent for Mr. Bennett, a medical man. Mr. Beale returned that evening, and came to my house. It became a question whether he should continue his attendance, and my wife said "Mr. Beale;" thereby implying that she wished him to attend her. Mr. Beale first intimated that there was danger on the Friday morning. I believe that Mr. Farrar was aware of the treatment pursued. After my wife's death I allowed a *post mortem* examination to be made. Mr. Farrer and Mr. Beale attended it. The day after the examination Mr. Self called on me, and asked me what was done in the first instance? I told him that Mr. Beale administered whatever medicines he thought proper; that he was constantly in and out, and that whatever he directed was done. Mr. Self asked if leeches had been applied; I said, yes, six. He said, that at least forty or fifty ought to have been applied. Mr. Self said, that Mr Beale was nothing but a porter, and that he had no more right to practise than I had. That was all that he said to me, with the exception of a few remarks about his standing forward for the respectability of the profession. I recollect the inquest on my wife. I had taken no steps to call one, and was astonished when I was served with a summons. I was examined as a witness. When Mr Self called there was nothing to lead me to believe that an inquest would be summoned.

Cross-examined. I have known Mr. Beale four years, and during that time he had attended my family, and sent medicines. I have had five of Mr. Beale's sons at my school at one time. My wife was taken ill on Thursday, the 16th of December. Six leeches were applied at once. No warm bath was used. A small blister was applied to the pit of the stomach on the Saturday.

Re-examined.—Mr. Beale ordered fomentations in the middle of the day as hot as they could be applied, and they were continued.

Mr. Farrer examined.—I was called in by Mr. Beale to see the deceased Mrs. Neck. When I saw her the symptoms were like those of a person passing gall-stones. I attended the *post-mortem* examination. Mr. Beale operated, and did so in a decidedly skilful manner. A portion of the smaller intestines were twisted or strangulated to the extent of about six inches, and this part was approaching to gangrene.

Cross-examined.—I should judge the twisting to have existed six or eight days. I decidedly think that if more active remedies had been used, and a greater number of leeches applied, it would have given the patient a better chance. Considering the extent of pain I witnessed, I should think that six leeches were not enough; and in my judgment a great many more ought to have been applied. Supposing that the pain had continued on the Saturday, and that the bowels were not relieved, I should have thought that I had been mistaken in supposing that the patient was passing gall-stones. I should not have felt justified in leaving the case from Saturday to Sunday night without providing a substitute. I consider the case to have been a medical case.

Re-examined. I wrote down a short statement of the *post mortem* examination some little time afterwards. (The statement was handed to the witness, who looked over it.) It is correct. It is there said that the pulse was feeble, the patient very low, and seemingly exhausted. Upon the *post mortem* examination I found the gall-bladder large, and full of fluid. The application of leeches would depend upon the subsequent condition of the patient. I should have suspected that there must be acute inflammation going on, as shown by the feeble state of the pulse. Bleeding would have had a good effect if it had been applied nine or ten days before death took place. If she had not got better, I should have bled her till some degree of faintness was produced. I cannot say how much blood the patient would have lost before she became faint; patients vary so very much. If the case had gone to the public hospitals, they would have taken it as a medical and not as a surgical case. I am quite clear on that.

By Mr. Serjeant Talfourd.—The seat of the disease was lower than where the intestines were twisted. The twisting might be the cause or the effect of inflammation.

Mr. W. G. Merritt examined.—I knew Mr. Beale when he attended at the London Hospital. I saw him there often collecting subjects for demonstration, and engaged as a curator in the Museum. He injected the arteries and veins of the subjects. He also articulated the bones. I have seen a person who was under him sweep and clean the place. I considered the plaintiff a very promising young man.

Cross-examined by Mr. Serjeant Talfourd.—I have known the office which Mr. Beale held called by various names. I know it is called that of dissecting beadle to the hospital. I have also heard that officer called assistant to the lecturer. The person who swept the Museum was a servant of the dissecting-room. His name was Merritt. He was no relation of mine.

Mr. Serjeant Talfourd.—Another order of merit, I suppose?

Witness.—I cannot say.

Re-examined.—The opportunities of seeing anatomy afforded to a person holding that office would be the most brilliant of all, and the plaintiff paid the most arduous attention to his duties while he remained there.

Dr. Charles Waller examined.—I am a physician and consulting accoucheur to the London and Southwark Lying-In Institution. I have known the plaintiff ten or twelve years. He attended two courses of lectures of mine on midwifery, and the diseases of women and children.—He attended with more diligence than most pupils. I had every reason to believe that he was a well-informed man, and as regards the department in which he attended me, I have no hesitation in stating that he was perfectly competent.

Cross-examined.—I have attended several labours with him. I renewed my acquaintance with him about six years ago.

Mr. Frederick Tyrrell.—I am surgeon to St. Thomas's Hospital. Formerly, for many years, I gave lectures in surgery. I know the plaintiff well. About 1826 or 1827 I became acquainted with him. He then became an assistant in the dissecting-room in a school which I was the principal means of founding, in Aldersgate-street. The plaintiff remained there as long as I did, and I believe longer, but I left in 1829, when I was solicited to take a professorship at St. Thomas's. Mr. Beale had constant opportunities afforded him of becoming acquainted with the profession, and his attention was unremitting. When he was there he asked me to allow him to attend my lectures for the purpose of enabling him to follow the profession at some future period. He attended a course of lectures in anatomy and physiology which I delivered in conjunction with Dr. Quain, and a separate course delivered by myself on the principles and practice of anatomy. When I left the school, his knowledge of the profession appeared to me to be very good, and I should say that it was much beyond mediocrity. In the case mentioned by Mr. Farrer to-day, the case would have gone to the hospital physician in the first instance, but if the symptoms continued the physician would probably ask for the assistance of the surgeon. There must be other symptoms than those I have heard described to day to enable me to judge of the treatment that should have been pursued. With the suspicion that there were gall-stones passing, the treatment pursued by Mr. Beale would have been proper. The six leeches were a sort of trial, and if that had been found to afford relief, and the pulse rose, more might have been applied. I should have said that the application of 30 or 40 leeches, when the patient was in a state of extreme depression, would have been a hazardous mode of treatment. It would show a want of skill, as you cannot recal blood. There may be various causes of obstruction of the bowels. It would not have been judicious to increase the number of leeches under a low condition of the circulation. I should say that the obstruction did not arise from inflammation, but from ligature.

Cross-examined.—I think that inflammation would not have arisen in nine days. Mr. Beale's whole time, up to 1829, was devoted to the school in Aldersgate-street. He was paid between 20s. and 30s. a week. We termed him assistant curator. I gave him the certificates produced for attending lectures in the course of the medical sessions 1827-8 and 1828-9.

Re-examined.—When I left the school he was competent to pass his examination in anatomy and physiology, but not in surgery.

Mr. Aston Key examined.—I am a surgeon at Guy's Hospital. I have heard Mr. Farrar's evidence. I think the opinion might have been formed without impugning the plaintiff's want of skill, that gall-stones were passing. I think that thirty or forty leeches would have endangered life. The powers of the patient would be exhausted by bleeding, and thereby her danger would be increased. The case appears to me to have been very peculiar in wanting the symptoms of acute inflammation. From what I have heard, I should say that the obstruction arose from adhesion, and that the case was wholly beyond the reach of art.

Mr. Neck recalled.—Down to the time of my wife's death her health was pretty good, but she was rather an ailing woman. My wife used to say that her heart appeared to be too large for her body.

The diploma of the plaintiff from the Royal College of Surgeons was put in.

This was the plaintiff's case.

Lord Chief Justice Tindal inquired if Mr. Serjeant Talfourd intended to call witnesses?

The learned Serjeant said that he should be glad of an opportunity of considering the evidence but he would not say that even as then advised he would call witnesses for the defence.

An adjournment was then agreed to.

This morning Mr. Serjeant Talfourd addressed the jury for the defence in mitigation of damages, but no witnesses were called in support of the pleas of justification.

The Lord Chief Justice summed up, and the jury, after some deliberation, found their verdict for the plaintiff, with £100. damages.

In Beale v. Dale, being a similar action against another defendant, the case was concluded by a compromise, a verdict being entered for plaintiff, with 40s. damages.

MOLLITIES OSSIUM.

(To the Editor of the "Medical Times.")

SIR,—In your report of Mr. Solly's observations on a case of mollities ossium, I observe that that gentleman in alluding to the microscopic appearances of sections of the bone alludes to the existence of "some particles of matter" which were "believed" to be worms. Mr. Solly then decides that these particles of matter are not worms, but "little filaments separated from the bones." The reasons assigned for this decision is, "because the cleaner we cut the sections there was less appearance of worms, and, at last, by the greatest care, not a portion of the supposed worms could be seen in the section."

I beg leave, with great deference for the superior powers of observation with which Mr Solly is endowed, humbly to dissent from this decision, because in a portion of the calvarium which I had an opportunity of examining by the kindness of Mr. Topping, of Brule Street, Liverpool Road, notwithstanding the greatest precautions were used to ensure perfect cleanliness of the cutter, the bodies alluded to were, I think, constantly visible.—I am sure that their absence was the rare exception, their presence the general rule, for the numerous sections which I examined with Mr. Topping; I am equally confident that what I saw, were not extraneous bodies, but did really and truly exist in the substance of the diseased bone. Whether they be, or be not "worms," I do not presume to judge, being neither microscopist, or comparative anatomist enough to form an opinion at variance with one who deservedly ranks high in both capacities, but I take the liberty of addressing these few remarks to you, in order that attention may be given to the microscopic observation of this or any future examples of this disease which may occur, its real nature, equally with its causes being buried in such profound obscurities, it is incumbent on us to use every means in our power to throw light on its origin.

I have the honour to be, Sir,

Your obedient Servant,

W. B. KESTEVEN,

Junior Surgeon to the Holloway and North Islington Dispensary.

Upper Holloway, Dec. 27th, 1842.

PERISCOPE OF THE WEEK.

SHORT SIGHT.—Those who are engaged in occupations which require the long-continued employment of the eyes on minute objects are more apt to become near-sighted than those who are not thus employed. Mr. Lawrence attended a book-sale, and found that out of twenty three persons who were present, twelve of the number wore glasses.—Like several other affections of the eye, myopia is sometimes hereditary; the children of short sighted parents being more apt than others to be affected with the disease. All minute occupations, such as sewing, long continued reading, drawing, &c., should be abandoned; the head should be kept erect: the coverings of the neck should be loose; and straining of every kind should be avoided, to prevent increase of congestion. Mild unirritating diet, pure air, active exercise, and the practice of looking at distant objects in the open country, will be very beneficial. The far discerning eye of the Indian is well known; and it is asserted that near-sightedness does not exist among the Arabs or Tartars, who are used to roam about, and to look at distant objects The power also which sailors possess of seeing at great distances is only acquired by practice. An experienced "look-out man" can very soon descry the character and the nation of a distant sail, which, to an ordinary observer, might seem a mere speck on the ocean. Some of the exercises of a soldier increase the power of recognizing distant objects. "It was not unusual," says Reveillé Parise, "to observe that among the troops the sight of many near-sighted conscripts was restored." In the case of a boy born without arms, who possessed the power of writing, &c., with his toes, Dr. J. V. C. Smith relates that the point of distinct vision was so much lengthened, that the boy could not see at the usual focal distance, so well as at his feet. By the early application of concave glasses the crystalline is kept in a wrong position, and the efforts of nature to overcome the defect are prevented.—"Give," says Reveillé Parise, "a person with excellent sight a glass slightly concave, and he will at first see less distinctly than with the naked eye. He will, however, soon become so accustomed to its use, that it will not incommode, but even become indispensable to him. Gradually increase the concavity, and you shall see that the organ will change in a similar manner, so that an individual with good sight will, at the end of a few years, become affected with complete myopia, and will ultimately require glasses of the shortest focus."

EFFECT OF ADMITTING AIR INTO THE VEINS.—A man, 55 years of age, was received into one of the French hospitals, in October last, with a scirrhous tumour on the left side of the neck, extending from a little above the clavicle to the lower jaw, in the space between the larynx and the sterno-mastoid muscle. The strength of the patient was wearing away under continual vomitings of bloody mucus, and the lancinating pains felt in the tumour, the removal of which was resolved on. The man having been laid in a horizontal posture, his head turned towards the right side, the tumour was exposed in its whole extent by a crucial incision, and the flaps dissected aside, partly with the scalpel and partly by the finger. The tumour was readily separated from most of its adherences, without the exertion of much force. The arteries divided were speedily tied, the loss of blood was inconsiderable, and the operation appeared to promise a satisfactory termination, when the internal jugular vein became penetrated with the end of a scalpel, so as to admit a quantity of air. At the same moment, says the operator, who reports the case in the "Gazette des Hospitaux," Nov. 8th, "I heard, progressing from the wound towards the heart, a peculiar noise—a sort of *glou-glou*—a sound which, once heard, can never afterwards be mistaken." The patient instantly turned pale, his breathing became quick, he uttered a plaintive cry, with the exclamation that he was dying, and scarcely a minute elapsed before he was actually dead. The operator, as soon as possible, placed his finger over the place of the wound, though without any good effect. He, however retained it in that place for several minutes, and noticed that a flux and reflux movement continued in the vein for five or six minutes after life was extinct.—A *post mortem* examination was made twenty four hours afterwards. A gaping oblong-shaped opening, about two-tenths of an inch (six to eight millimetres) in length, was met with in the jugular vein, three quarters of an inch above the subclavian, and at a point where the tumour was found to be adherent to the coats of the vein. Blood pressed upwards, and made to exude through this opening, contained numerous globules of air. Air-globules were found in great quantity mixed with the blood in the right auricle and ventricle, the parietes of which were distended, and their contents of a colour decidedly less dark than venous blood generally. The blood in the superior cava, subclavian, axillary, and brachial veins, and those on the interior of the cranium, also contained air, as did a frothy fluid in the iliac arteries and aorta. The left ventricle and the cerebral sinuses were empty. It may be remarked, that death, in this case, happened earlier after the puncture than on any of the many occasions recorded by Amussat, Magendie, &c., doubtless, in consequence of the close proximity of the internal jugular vein to the centre of the circulation.

TREATMENT OF SCARLATINA.—As scarlatina, &c., are the result of poisons inhaled into the blood, and as those poisons, whilst floating in the atmosphere, are destructible by chlorine gas, a correspondent suggests that they may also admit of being destroyed by the continued inhalation of the same gas, admixed in moderate proportion with the atmospheric air. At any rate, such an admixture of chlorine gas with the air of the invalid apartment would be wholesome to the patient, and protective of others. In addition to the chlorine gas diffused in the atmosphere, water, with a slight addition of chlorine, may be taken as a beverage, for thirst and the condition of the throat, and may be used for ablution of the general surface.

STRANGULATED HERNIA.—An old woman, aged 73, was admitted into the Marylebone Infirmary, under the care of Mr. Phillips, with strangulated hernia. The history of this case shewed that the symptoms of strangulation had been present eight or nine days, though they had not been very pressing; there had been no stool for eight days. Upon examination after admission, the tumour, which was not large, was found to occupy the right femoral region. There was not much tenderness at the point, nor at any part of the abdomen; there was very slight tympanitis; there was some nausea, and occasional vomiting, but not severe. The tongue had a slight coating; the pulse was 84. Mr. Phillips pointed out that in people advanced in life it is often not prudent to wait for more decided symptoms, because the powers of life are incapable of developing them, and because it is matter of observation that they often die with symptoms which, according to the language of works on surgery, would not warrant a recourse to operation.—As it was ascertained that the taxis had been employed for a hour and a half on the previous day, it was not thought prudent to persevere longer in any further attempt at reduction, and the operation was at once had recourse to. An incision was made in the usual way, and the approach to the sac was cautiously made. A tumour, apparently omentum, and much larger than a pullet's egg, was exposed; it was invested by a membrane which was conceived to be the sac; this was opened, and the director being placed under it, it was incised upwards and downwards to such an extent as was necessary. The omentum-like mass was now fairly seen; it was very vascular, and a large number of veins on its surface appeared so tortuous as to give the impression that they were varicose. The tumour was turned up, but no intestines could be discovered under it: there was no reason to doubt that it was an omental hernia. A director passed very easily under Poupart's ligamant, and the opening was enlarged to the necessary extent. The tumor was then readily passed back under the ligament. Dr. Boyd and one of the assistants passed their fingers under the ligament, and

were satisfied that the reduction was complete. The lips of the wound were brought together by suture, and it was ordered that the patient should be left without medicine for six hours. At that time, as there had been no stool, the house-surgeon ordered a common enema, which brought away a certain quantity of fecal matter. In the night she took three grains of calomel, to be followed in the morning by a beef-tea-injection: they brought away a little more fecal matter, but stercoraceous vomiting came on, and in the course of the day she sank.—The body was examined fourteen hours after death. There were very slight traces of peritonitis. The examination was then confined to the neighbourhood of the disease. The tumor had again protruded, and a portion of intestine was involved in it; 5 or 6 inches of intestine on either side of the implicated part were removed, with the tumor, and the following state of things was revealed. The tumour was very condensed and very vascular, having much the appearance of inflamed omentum, it was surrounded by a tolerably dense investing membrane. Into the centre of this tumour a knuckle of intestine passed to the depth of rather more than an inch and a quarter, and on every side the intestine was surrounded by fat to the depth of more than a quarter of an inch: the pressure upon any part of the intestine did not appear to be great; there was, however, considerable thickening of the peritoneum at the proper neck of the sac, which was hard and unyielding. The intestine was adherent to the sac, as was the sac to the fatty mass. In this case, to which Mr. Phillips knew no parallel, it would seem that the fatty tumour must have been seated in very immediate relation with the femoral ring, probably blocking it up, and that when the protrusion of intestine took place, rather than give way, the tissue of tumour had admitted the intestine to pass into its centre. Of course the proper sac was not opened, and indeed could not have been got at without cutting down half an inch into the tumour.

Closure of the eyelids.—Closure of the eyelids is not a mere passive condition, from relaxation of the levator, as taught by Bichat, but muscular agency is employed in its accomplishment. An interesting case is detailed of paralysis of the *portio dura*, occasioning lagophthalmos, in which, as in similar cases, by no means so very uncommon, the upper eyelid assumes that position in which the force of gravity, unaided by muscular effort, would place it. With Sir C. Bell, Mr. G. Stokes thinks that, during sleep, the eyeball is turned up, whilst the affected eye remains open, in fact the lower third of the eyeball is exposed in these cases to the dropping of the upper lid over the two upper thirds, and the white of the eye alone shews, from the more or less complete action of the inferior oblique. Mr. Stokes considers the muscle as a true sphincter, for the reason that it presents all the anatomical and physiological characters peculiar to such muscles, viz., a mixed function, the voluntary power being employed during a state of wakefulness, the involuntary during sleep, regarding the orbicular and palpebral portions as but one muscle, possessed of a similar mixed function.

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SUMMARY.

LECTURES ON CHEMISTRY.

By JOHN SCOFFERN, M.D., Lecturer on Chemistry, at the Aldersgate School of Medicine.

At length we arrive, gentlemen, at a very different part of our chemical course to that on which we have hitherto been engaged. Slightly, and imperfectly, we have sketched the properties of imponderable bodies—those mystic agents which reach our grosser senses, and scarce seem to claim alliance with the mortal world. We are about to commence the description of agents altogether different in their natures,—which are recognised immediately rather than by their remote effects; and which, moreover, are amenable to the grand force of gravitation—a circumstance which confers on them their usual appellation of *ponderable bodies*. If a person could be sent upon the face of this globe, with comprehension enlarged and judgment matured—if he could be separated from his fellow men, and obliged to form an opinion of things around—probably his first supposition in regard to the world's composition would be, that the Creator had employed in making it so many different materials, as there were things of different appearances upon its surface or within its depths. A slight acquaintance, however, with the never-ceasing mutations around, would soon cause him to alter his opinions—perhaps to embrace ideas diametrically opposite to those formerly espoused. He would notice the silent disintegration of mountains, and the formation of soils:—he would observe parched and shrivelled seeds under the influence of light and heat, and showers, rise in all the freshness of vegetable life from the beds which first received them. He would see tiny animals crop those rising shoots, and grow, from their sustenance alone, into beings of sometimes gigantic size. He would see such animals, in their turn, devoured by other species—to be converted into structures which are as unlike in regard to structure and endowments from themselves as the tiger is unlike the lamb. Lastly, he would see them all die at the appointed time; their bodies, no longer under the influence of life, dissolve and decay; tens of thousands of metamorphoses result, which he had never before in his wildest moods dared to imagine,—and, lastly, of all the elaborate forms which an observer is supposed to have contemplated, there would remain tangibly before him, only a little dust!

Such remarks would convince him as soon as made, that his previous opinions were wrong, that however great the difference which his judgment had formerly imposed between the ideas of a mountain of soil, of vegetables, and of animals, there must be, nevertheless, *something* in common between the elements of which they were composed. He would now probably fall into the opposite extreme, and arriving at conclusions with a rapidity unsanctioned by inductive philosophy, would perhaps imagine that all the universe, animate and inanimate, was composed of one element, or at most three or four, modified by some supernatural power, into organic and inorganic forms. This we may imagine to be the train of reasoning which led to the idea of some ancient philosophers, that the universe consisted of four elements, merely *fire*, *earth*, *air*, and *water*. I should mention, however, that although this is termed the theory of the ancients, it was adopted by only a sect of them, Epicurus and his followers. Now I scarcely need inform you, that instead of four elements, there are fifty-four or fifty-five, of which everything, organic and inorganic, on this world or within it, is composed. Nay, we have reason to believe the whole material universe, suns, planets, comets, moons, and all, to be composed of some, or all, of our own fifty-four or fifty-five elements.

It is the province of chemistry to investigate the nature of these simple bodies, so that they may be individualized or distinguished from each other; then to unravel their various combinations, first of all in the organic kingdom, then in the more complex form of animal and vegetable life, where the hitherto well-sustained and evident relation of cause to effect is lost in the mazes of physiology and metaphysics. These latter considerations, however, we may defer until another period, our first object being to examine the simple bodies individually, and for this purpose we will pause an instant, ere we follow any particular mode of classification. As a prelude, I direct your attention to the list of simple bodies at present known.

	Eq.	Symbol
Aluminum	26	Al
Antimony (*Stibium*)	65	Sb
Arsenic	38	As
Barium	69	Ba
Bismuth	72	Bi
Boron	11	B
Bromine	78	Br
Cadmium	56	Cd
Calcium	20	Ca
Carbon	6	C
Cerium	48	Ce
Chlorine	36	Cl
Chromium	28	Cr
Cobalt	30	Co
Columbium (*Tantalum*)	185	Ta
Copper	32	Cu
Fluorine	18	F
Glucinum	18	G
Gold (*Aurum*)	200	Au
Hydrogen	1	H
Iodine	126	I
Iridium	96	Ir
Iron (*Ferrum*)	28	Fe
Lantanum		La
Lead (*Plumbum*)	104	Pb
Lithium	8	Li
Magnesium	12	Mg
Manganese	28	Ma
Mercury (*Hydrargyrum*)	200	Hg
Molybdenum	48	Mo
Nickel	28	Ni
Nitrogen	14	N
Osmium	100	Os
Oxygen	8	O
Palladium	54	Pd
Phosphorus	16	P
Platinum	99	Pt
Potassium (*Kalium*)	40	K
Rhodium	52	R
Selenium	40	Se
Silicium (*Silicon?*)	8	Si
Silver (*Argentum*)	108	Ag
Sodium (*Natrium*)	24	Na
Strontium	44	Sr
Sulphur	16	S
Tellurium	32	Te
Thorium	60	Th
Tin (*Stannum*)	58	Sn
Titanium	24	Ti
Tungsten (*Wolfram*)	100	W
Vanadium	63	V
Uranium	217	U
Yttrium	2	Y
Zinc	32	Zn
Zirconium	22	Zr

With regard to this table of simple bodies I have to remark that the atomic numbers are divested of all fractional parts, and that the symbolical abbreviations are those in use by Berzelius, and followed by almost every chemist of the present day. We shall return to their consideration hereafter.

And now, how are we to group those simple bodies, so as to facilitate their description? Why this is really a somewhat difficult question to decide; many plans have been recommended, but all are more or less open to objections. We may at least divide them into metallic and non metallic bodies; think you, there can surely be no discrepancy of opinion here? When, however, I tell you that the substance carbon, or charcoal, is considered a metal by Döbereiner, Selenium by Berzelius,—and to crown these apparent inconsistencies, when I inform you that the *gaseous* body hydrogen, the lightest ponderable substance in nature, is regarded as a metal by Mons. Dumas, it will be admitted that even this primary division of simple bodies is not so free from objections as might be imagined. Granting, that for all practical purposes the difference between metallic and non-metallic bodies is sufficiently marked, still, in subdividing the list of metallic, as well as non-metallic bodies, great difficulties arise. We may arrange them under the heads of electro-positives and electro-negatives (anions and cathions,) into combustibles and supporters of combustion, or into acidifying or acidifiable; but still the propriety of either of these divisions may justly be questioned. Berzelius follows another mode of classification. He places oxygen by itself as a supporter of combustion, and into inflammable substances, in which he includes all other elements. The non-metallic bodies he divides into three classes, viz.: 1. permanently elastic, or gaseous bodies—*gazolyta*—oxygen, hydrogen, nitrogen; 2. *metalloids*—sulphur, phosphorus, carbon, boron, silicon; 3. salifying substances—*halogenia*—chlorine, fluorine, iodine, bromine. The complexity of this arrangement best demonstrates how difficult the distinguished chemist must have found the task on which we are now occupied. In the absence of any arrangement strictly correct, I shall follow one without any philosophic pretentions whatever, more than this, that it will bring conveniently before your notice, certain simple bodies, and afterwards inorganic groups of them. The arrangement alluded to is followed by Mr. Brande, and happens to be more convenient than any other with which I am acquainted. I here present it to your notice.

Non metallic simple bodies.

Oxygen
Chlorine and its combinations with oxygen
Iodine and its combinations with the preceding
Bromine and its ditto ditto
Fluorine and its ditto ditto
Hydrogen and its ditto ditto
Nitrogen and its ditto ditto
Sulphur and its ditto ditto
Selenium and its ditto ditto
Phosphorus and its ditto ditto
Carbon and its ditto ditto
Boron and its ditto ditto

With regard to the metals, they will be arranged under their own proper head.

We can scarcely with propriety begin the chemical description of simple bodies, until we have examined the principles of that nomenclature now so universal in chemistry. I am no great advocate

for burdening a mind with definitions which may not be required for days, or months. I would far rather develop a general scheme, and acquaint you with principles which, when correctly appreciated, should render the mistake of chemical terms an impossibility. Do not imagine, therefore, that I shall give you a dry dissertation on the beauties of chemical nomenclature: you will have nothing of the kind. It is merely my intention to call your attention to the subject, to point out its conveniences, to demonstrate the ease of mastering it, and to allude to the necessities which first caused its introduction.

In the early days of chemistry, when new bodies, simple and compound, were accumulating on the world, and when experimenters were actuated by no higher motives than personal vanity, they followed the very inconvenient and reprehensible plan of calling substances, either by a name like their own, or else of indicating them in reference to some imaginary property. Thus we have the term *sal Glauberi*, handed down to us as indicative of sulphate of soda, merely because Glauber is said to have discovered it, and the liquid now termed nitric acid *was* called *aqua fortis*, because of its solvent property. These I offer merely as instances of a system formerly universal. Now to place the absurdity of such a nomenclature in its strongest light, I may say with confidence, that had it been applied to the bodies and combinations of modern chemistry, a good memory and a long life would be unceasingly occupied in learning only a *very* small portion of the names. Towards the conclusion of the 18th century, this inconvenience was severely felt, and just before the great French Revolution, when all, even science was ripe for change, certain distinguished chemists, namely, Lavoisier, Guyton-Morveau, Fourcroy, and Chaptal, introduced a radical reform into the nomenclature of chemistry; one that exists with few alterations, save those of addition at the present day. All the simple bodies, so far as it was found possible, were designated by names indicative to a certain extent of their nature; and compounds received names which immediately bespoke the elements of which they were formed. As an example of the principles followed by those renowned chemists, let us just examine the names of our metallic simple bodies. To begin, then, with oxygen; there was a gas known, which, according to the ideas of Lavoisier and his colleagues, was the principle of acidity, and as such, necessarily entered into the composition of every acid, it would indeed, be proved to exist in most, and it was inferred to be present in the others. In consequence of this property, real or assumed, the gas in question was called oxygen, a word compounded of *oxus* and *gennao*, and meaning the generator of acids. This term was intended to be universal, and it might with propriety *have* been so, but the Germans disdaining to borrow from the Greek language, have called it *sauer-stoffe*, a word so nearly English, that the literal translation *sour stuff*, is scarcely necessary. The second body in our list, *chlorine* derives its name from *chloros*, on account of its yellowish green colour. Iodine is so called from *iodes*, violet coloured. Hydrogen means the water former, and is termed by the Germans wasser-stoffe, which, literally translated, is *water stuff*. Nitrogen is so called because it is found in the substance nitre, or saltpetre; I need not take up any other substance for the purpose of extending my illustrations. This much, then, in reference to the nomenclature of simple bodies, but we have also to frame names for some tens of thousands of compounds.

All combinations of oxygen, chlorine, bromine, iodine, and fluorine, with the inflammables and the metals which are not acid, are called oxides, chlorides, iodides, bromides, and fluorides; the combinations of inflammable bodies with each other, or with the metals, are distinguished by the termination *uret* as *sulphuret*, *phosphuret*, &c., and in some cases, the combinations of metals with each other are similarly designated—thus we speak of *arseniurets*, *tellurets*, &c.

We indicate different proportions of oxygen in oxides by Greek and Latin numerals prefixed; thus we have *protoxide*, *deutoxide*, or *binoxide*, *tritoxide*, or *teroxide*, and the highest state of oxidation is indicated by the term *per-oxide*; when the proportions of oxygen are as one to one-and-a-half, the result is termed a *sesqui-oxide*. The names of the acid compounds of oxygen are derived from their bases, and where there are only two compounds the terminations *ous* and *ic* indicate respectively the lesser and greater amount of oxidation. When there are more than two compounds of the same base more complicated terms are required. Thus there were formerly known only two acid compounds of oxygen and sulphur; these were indicated by the terms sulphur*ous* and sulphur*ic* acids respectively. Subsequently, however, there have been discovered two other compounds, one containing less oxygen than sulphurous acid, and which in consequence has been called *hypo*-sulphur*ous* acid, the other more oxygen than sulphurous but less than sulphuric, hence it has been termed *hypo*sulphur*ic* acid. Occasionally other terms are used, but a general knowledge of Greek and Latin will render their mention unnecessary here.

The saline combinations of the acids ending in *ous*, are distinguished by the termination *ite*, and those ending in *ic* by the termination *ate*, thus sulphur*ous* acid by uniting with a base forms a sul*phite*, and sulphur*ic* acid a sulph*ate*. Where the acid and base unite in more than one proportion,—the terms *super* and *sub* afford a loose means of distinction, more correctly expressed however by the prefixes *bi* and *di*, the former indicating two eq. of acid,—the latter two eq. of base. Furthermore, an acid occasionally unites with more than one oxide of the same metal, when the particular name of the oxide must be added as a prefix; thus we have a protosulphate, and persulphate of iron. So much, then, with regard to the principles of chemical nomenclature, and before I conclude, let me draw your attention to a subject very nearly allied,—I mean the recent introduction of symbols. Those of you who know the condensed power of expression afforded by algebraical notation, will not fail to recognise the advantages afforded by an introduction of the same system, or one very nearly resembling it into chemistry. Those of you who are *not* acquainted with algebra, will nevertheless experience the value of chemical symbols as we proceed. It is obvious that by fixing on certain letters as indicative of certain substances, we acquire an increased power of expressing them or their compounds. Thus O is much sooner written or spoken than oxygen, and $O+H=HO$ much sooner than the phrase, *Hydrogen combined with oxygen, constitutes water*. But expressions may be still further shortened by introducing arbitrary signs for certain very common elements; thus oxygen may be indicated by a dot, thus . Sulphur by a comma, thus ,. The system of chemical symbols is still further extended, but at this period I need not further allude to it. As we find with every new introduction, however useful,—there are not wanting those ready to carp at it, and make it appear ridiculous. It is argued that to many persons, symbolical chemistry is a dead language; to this the answer is short—let all make it a living one; again, it is said that the initials are not of the same power in every language; that P for instance is considered in Greek, and in Russian, which is partly derived from the Greek as R! Such objections are too puerile and ridiculous to merit much consideration. It is argued, too, that the small figure employed in the locality of an algebraical co-efficient, but a very different meaning, creates an unpleasant sensation to the mathematician: thus H^3 in algebraical language, means the third power or cube of H; but in chemical language, it signifies three atoms of hydrogen. For my own part, I cannot imagine any *very* unpleasant sensation thus produced in the head of any one, and I never heard that the nerves of mathematicians were more troublingly alive than the nerves of chemists or of any other people.

We learn from Stockholm, December 16th, that the celebrated chemist, Berzelius, had nearly fallen a victim to his scientific pursuits a few days previously; an alembic having burst, he received an injury, which fortunately was not attended with serious consequences.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c., &c.

LECTURE III. (Delivered December 7, 1842.)

(Concluded from p. 214.)

There is an affection of the breathing and the respiration, which is proved to be the case, by the escape of bubbles from the air-passages. And you find this state of things results from swallowing the smoke of tobacco, which produces the action of vomiting, which is neither more nor less than an act of respiration, when the larynx is closed. Here, then, the blood is in a morbid state—it has been poisoned—surcharged with carbonic acid gas —and in this morbid state you have an effect like epilepsy. This is important, as I have told you already that every physiological action, with regard to the spinal marrow is reflex, and I mentioned one case, to shew that the pathological action of the spinal marrow is almost always direct, —that is to say, it must have originated in the spinal centre. One fact more—and that is also a repetition,—I wish you invariably to bear in mind the extraordinary difference between the two diseases I have already adduced. I believe that they illustrate this pathological state of the spinal marrow, namely, tetanus and hydrophobia: I think you will find that they are associated everywhere as examples of reflex phenomena. Now, the bones are not drawn asunder in the pathology of the one, while they are so in the other. In the pathology of tetanus you have a reflex action. You can produce this by a simple experiment. All you have to do is this: take an animal,—a cold-blooded animal for this purpose is the best, and for this purpose the tortoise is the best. In order to produce the experiment, the head is taken off; and if you irritate the extremities for a certain length of time, you will produce a state of tetanus in the whole animal frame. It is important to see that this takes place. In hydrophobia, what we do find? We find a state of things, compared with tetanus, produced by strichnine. I speak of tetanus where the action is of a direct kind, certainly arising from the impression of a morbid state of blood on the spinal marrow, which being sent to the various muscles, the whole is thrown into a tetanic action. How do we prove this? Take a frog, and apply a ligature round the head, so as to bind the sciatic nerve. You will see, on pinching the toe of that frog that it is perfectly alive to sensation, and that there is, therefore, a reflex action; therefore, the sciatic nerve was so fixed by the ligature as to prevent any action through the medium of that nerve. If you put it for a moment under the microscope, you will see there is no circulation. If you sprinkle the surface with strichnine you will wait a long while before you see any effect, but if you tie the ligature in twenty minutes, the animal is then perfectly tetanic. What do we conclude from this? That the blood has been poisoned, and that the nervous system has been poisoned. I have distinguished two cases of tetanus, the one is concentric and the other eccentric. Here, then, we have tetanus arising from reflex action, and tetanus arising in hydrophobia from the poisoned state of the blood. For in hydrophobia there is poison, and in tetanus there is no poison; that is, tetanus arising from mere lesion. It is a physical injury, as I tell you, that all that excites reflex action is physical. Nothing absorbed does; cold does it, heat does it, and lesions do it; everything that is physical will do it, but nothing that can be absorbed does it. For all that can be observed is carried to the blood, and is then carried to the spinal marrow, and issues in direct action. The actions so produced are very similar. Here, then, you have a most decided proof that poisons or morbid agents act not in one only, but in two ways; in one way, through the reflex functions, and in the other, through the direct action of the spinal marrow.

I think some time has been occupied by my

having entered more deeply than I intended to do into the preliminary questions. The question I intended to bring before you at this lecture is the subject of the diseases of the nervous system in children. You are perfectly aware I am persuaded that no subject can be more important to you on entering practice than the diseases of the nervous system in children, and you will find the subject one of deep interest to you. Affections of the cerebral system in children—what are they? Gentlemen, a child, in the first place, may receive a blow on the head, and inflammation in the cranium will ensue as a necessary consequence. In the second place, the child may not have undergone any such accident, and yet the symptoms of inflammation and affection of the brain may very early come on. The former case is one caused by a collision; this case generally speaking, we are able to trace to what is generally called water on the brain. Here the phenomena are a state of things clearly referable to inflammation; in the latter case this is doubtful. Here you have the two chief maladies, and I have to introduce to you another—a third—which is one of the most intense interest. You are aware, that after scarlatina has lasted about sixteen days, after it ceases, or is so mild as to lead to a belief that your services are no longer needed, and the little patient begins to play and to run about as if quite well, it is in such cases after about sixteen days that the child sometimes becomes affected with a bloated countenance, and with that a state of things resembling a state of apoplexy in adults, with the exception that the child's face is not bloated as in some species of dropsy. It continues exceedingly pale, and you have phenomena of a peculiar kind, besides that of coma; you have, in the third place, that which is called the water stroke. It varies from fourteen to sixteen days days after scarlatina,occurring after the mildest cases; and this is important for you to know, because it is precisely in this case I am alluding to that you have.

There is another case which I do not think is a very common case. I have recently been attending with Dr. Prout and Mr. Stone, one of the most interesting cases you can possibly imagine. The little child had just recovered from a state of purpurea all over the body. But what remained? This remained, the urine was 1-1030 degrees in specific gravity, and with the albuminous deposit there were sometimes small particles of blood, and some other matters. The child remained in an invalid state, and every day, apprehension was felt that the child was affected with some disease of the nervous system—some affection of the head—some affection probably of the spinal marrow. Now, then, we may have affections of the head like this patient had, like hydrocephalus from a state of amenorrhœa, and many other hydrocephaloid diseases, accompanied with an attack of bronchitis, or something of that sort. The child may be in a state of great exhaustion, which is a state perfectly similar to hydrocephalus. If you are not aware of that, and if you do not trace it through its past history, it is totally impossible to distinguish between the two. In a case of hydrocephalus, you may be certain of recovery. If you are certain that it is hydrocephaloid disease, you may be certain that under proper treatment it will recover. How is the prognosis formed? by this distinction. There is one case more. Sometimes you have an overloaded state of the intestines; in such a state the child may recover under the influence of purgative medicines; I have laid before you these cases—inflammation, tubercle, water-stroke from scarlatina, and a state occuring after purpurea with albuminous urine, and then hydrocephalus and the other case, of convulsions, arising from an overloaded state of the intestine. I have just time to go over the symptoms of hydrocephalus before I conclude my lecture. I shall be very brief, but I want to show you, once for all, the importance of a knowledge of the physiology of the nervous system whenever you have to observe and treat of diseases of the nervous system. Suppose you are called to a case in which there is a little child being affected with tuberculous affection of the brain. In the first place, you naturally inquire into the probable causes, whether the child has had a fall, whether any thing has happened to the child to produce anything like inflammation, and you then try to trace the affection to one of the ordinary causes. You examine whether the child is one of a family of children, of whom some have died of hydrocephalus, and I really know no more important fact than this. The next question is whether there has been any predisposition to hydrocephalus in general. I mention one fact of great importance.

I have no doubt whatever that there is a predisposition in one family to hydrocephalus in infancy and in another to tuberculous disease of the abdomen at a later period, in a third to tubercles in the lungs, pulmonary symptoms of other kinds occurring at a still later period of life. You first inquire whether there is any disposition to hydrocephalus, and I take this to be an important element in practice; if the disease is not hydrocephalitic, you inquire whether there is tuberculous affection of the intestines, and you inquire whether the child has undergone scarlatina, the water-stroke, or whether there is any morbid state of the urine. I have already told you, that if the urine is not secreted as it ought to be the blood is seasoned, and the poison is, therefore, carried to the nervous system. Look at the child's face, and you will see it is extremely pallid. You inquire—and hope—whether it has had any hydrocephaloid affection, and whether there is any cause of exhaustion. Now I want to tell you what you naturally observe—the first state of the disease is a state of over-excitement, and the second state is one of undue excitement. You observe, that the little patient's countenance exhibits a state of agony which the tongue cannot tell. If there is a pain and the patient cannot express it, you find it expressed in the state of the countenance, it is a state of over-excitement. What is the next thing you are to observe? Does the patient sleep? When it falls asleep, the sleep is disturbed, the patient is excited, and starts up in its dreams, it cannot go to sleep and seems in a state of great excitement. Look to the eye—the pupil is contracted, and what do you observe? The patient cannot bear the light—it cannot bear noises, even the skin sometimes is unduly sensitive; that is one of the things you may observe. You find all the senses unduly excited; there is an expression of pain: the patient does not enjoy sleep, but starts up with something similar to delirium, and cannot be appeased; the eyeball is contracted, and the eye itself is contracted, there is an undue sensitiveness to light, the child cannot bear the light, there is an undue sensitiveness of the organ of hearing, and an undue sensitiveness of the organ of touch, or the skin. These are the very first symptoms. There is one more symptom, and that is an undue excitement of the true spinal system. No symptom in my opinion is so important to treasure up in your minds as the circumstance of vomiting in children. If you cannot account for it by finding that some improper food has been taken into the stomach, then you always suspect some affection of the brain. If the child has had a fall, the question is, is the brain injured? Has it so suffered from the concussion as to be materially injured? If the child has had such a fall then inflammation will follow, and the question is to be determined by asking whether the child has met with an accident of that nature? But you can never leave it perfectly safe. Vomiting and sickness are the premonitory symptoms of hydrocephalus, and this is a point of the utmost importance. A very particular friend of mine consulted me about a little patient who had these symptoms of sickness. The child was sick at everything; the bowels were in a perfect state, but the child continued sick. There were no other symptoms. The question asked me was, may the child be taken out of town? I consented, but I was persuaded the child would in a short time manifest symptoms of hydrocephalus. In a fortnight the child shewed symptoms of that disease. Now a medical man ought never allow a patient to go from under his own eye.

Now, gentlemen, there is another important thing, that is the state of the pulse. Here is one of the most interesting points I can bring before you. You find, uniformly, that there is a beautiful relation between the number of the beats of the pulse, and the number of respirations. It is so beautiful that it is impossible for me to mention it in too energetic terms. Look at the child asleep. You find its respiration less frequent than usual, and so is its pulse. Look at the same in a child awake, and you find its pulse quicker in precisely the same proportion to the respiration. Let the patient fall into a sleep, and you find scarcely any pulse and scarcely any respiration. You invariably find this to be the case, the pulsations and the respirations are not in the same number, but in the same proportion. Count the number of respirations and the number of the pulse, and you will find the physiological state always changes the moment you come to the pathological. If the respiration physiologically is less frequent, so is the pulse. The same proportion is always found when it is physiological, and when you come to the pathological you find this relation is disturbed, and this exceedingly assists you in your diagnosis. Now, when we come to this little child, if the disease is hydrocephalus, the respiration is scarcely affected at all, and the pulsation is quickened. Here you see the relation is altered; the respiration is scarcely affected, and the pulsations are quickened a great deal. Now, for fear of not giving to these observations the point I wish to give them, I will just briefly go to the opposite state. When the child passes into a state of hydrocephalus, you find that all I said before becomes now contradictory. What have you? Pain expressed in the countenance, you have coma, and then you have undue sensitiveness. Now you have coma to produce deep sleep. Every thing seems altered. Hitherto there was over-sensitiveness of the eye to the light; now the eye is scarcely susceptible of light. The pupil was contracted, now it is dilated. The eyelids closed on the approach of light, now they remain gaping. The child was unduly sensitive to noises, now it is deaf, and is not able to detect anything like noise. There was an undue sensitiveness of the skin, there is now a numbness all over the skin. There are some other points so interesting, that I fear time will not allow me to enter into them, I will do it briefly. I have told you that in the first case the eyelid contracted, and dilated in the second. In the second case, when the eyelids are dilated and open, if you touch the eyelash with the point of your finger or the feather of a pen, it immediately closes; in the latter case, if you touch the eyelid it will not close. There is a third case. The pupil is dilated, and in this case it remains dilated, and as the coma becomes more intense, the pupil dilates more and more. You now find that the pulse and respiration are, as I said before, altogether contradictory. The pulse was quickened before, the respiration remaining the same. Now look at the respiration and see its characteristic. The child breathes two or three times in the natural way, and then there is a cessation of respiration. There is quite a pause in the respiration, and this it is which gives the thermometer, or measure of the coma; as the child falls more and more deeply into coma, respiration becomes more and more irregular. After a pause, the organs invariably betoken a state of things like that of infusion into the lungs from without of carbonic acid gas, and perhaps in a deep state of coma, there is an absence of all sensation of pain. The pulse is exceedingly varied, and it ceases with the breathing; it becomes exceedingly slow,and moreand more characteristic of what was noticed by Dr. Abercromby, namely, that the pulse was unequal and intermittant. There is a respiration, then a pause; then it will begin again; the pause is repeated, and then the respiration again takes place; if you count the pulse, you will find it is invariably intermittant.

ROYAL COLLEGE OF SURGEONS IN LONDON.

List of gentlemen admitted members on Friday, December 30th, 1842:—

J. L. Mackintosh, G. Green, T. Evans, T. S. Blackwell, H. Hutson, W. A. Backham, C. Evans, W. S. Britton, H. Cooper, R. Jones, J. Mullins, N. Buckley.

NAPOLEON'S LAST ILLNESS AND DEATH.

(Prepared from the German for the "Medical Times.")

[WE consider that the following contains some facts, both medical as well as historical, not before known. The author, a foreigner in the British medical service, has not prefixed his name to the title of the book, from which we make the following extract; but the fact of the work being published by a respectable firm of Leipzig, and its insertion in several German journals, fully prove the credit due to the author.]

In February, 1821, it became known that Napoleon was dangerously ill, his bodily ailments being exacerbated by the state of his mind, which had been greatly hurt by the news which reached Longwood from Europe of the sinful and disgraceful conduct of his wife, &c. He complained of constant pains in the epigastrium, weakness and entire absence of appetite. Two or three emetics, given to him by Antommarchi, placed him in the most distressing position. Shortly after, he refused altogether to take medicine, and those still offered to him, he threw out of the window. Signor Antommarchi had been a pupil of the celebrated Mascagni at Florence, and consequently was an anatomist of great ability; but, in therapeutical science, he certainly was not much skilled. I venture also to add, that the Emperor did not place the least confidence in him. General Montholon told me himself, that when Messrs. Bonavista, Vignali, and Antommarchi, arrived at Longwood; each of them had to undergo a strict examination. The two latter were Corsicans; and Cardinal Fesch, who had sent them, thought probably that they would much please the Emperor, which, however, was not the case. Bonavista, a South American bishop, and a very well-informed man, was passable with the Emperor, as was also Abbé Vignali, although a man of very inferior capacity. But the doctor was a bad chemist; and Napoleon, who, bye-the-bye, was no adept in this science, though very fond of it, as of all the exact sciences, harassed him by his questions, and dismissed him with expressions anything but complimentary. Antommarchi considered himself lost, but was consoled by the persons about the Emperor, who said, that his anger would not last long. Montholon advised him to ask for another audience, to confess himself a mere pupil in chemistry, to ascribe the fault to wrong training, and to request the loan of some chemical books from the Emperor's library. The doctor did so; but I do not know that he ever succeeded in gaining the good opinion of the Emperor; in fact, he was the only one of the suite at St. Helena who was not mentioned in the Testament—an omission which the family was obliged to repair by the grant of a pension.

The ceremonial which the great man imposed upon every one at Longwood was most harassing; and Antommarchi afterwards told me, on our passage to Europe, that he was often near fainting, having to remain two or three hours standing in the sick room of the Emperor. Napoleon seemed to know his disease very accurately, and we are induced to believe in the hereditary character of inflammation of the stomach, since we know, that beside him, his father, the princess Borghese, and queen Caroline of Naples died of the same disease. His pains convinced him of the truth of his diagnosis, and Dr. Arnott (the English Physician, who was, at a later period, called to his aid) afterwards told me, that the Emperor often placed his hand on his stomach, exclaiming, "Ah! mon pylore,—mon pylore!" The 4th of May was exceedingly stormy, and on such occasions the wind visits the island always from the same direction. At two o'clock in the morning, one of our officers, only half dressed, and without a hat, rode in full speed to my door, and called me to come immediately to Plantation House, where the youngest child of the governor had been dangerously ill. To Jamestown other surgeons had been called in haste, and telegraphs called for medical aid on all sides. The 5th of May was equally cloudy and stormy; a battle of the elements seemed to accompany the last struggles of the hero—the Emperor lay in his last agonies at Longwood. In fine, the great drama was over.

The *post mortem* examination was made in the presence of Bertrand and Montholon, some field officers of the governor—in fine, of all the medical officers of the governor, even some from the ships. Antommarchi was also present.—I had received orders from the chief medical officer (Dr. Short) to write the minutes of the autopsy, and to compose the bulletin, which was afterwards published; still, I was not permitted to sign my name to it, as I then was only an assistant surgeon, and the governor had ordered that it should be signed by no one below the rank of a regimental surgeon. Sir Walter Scott's account of the *post mortem* examination is not quite correct, as several persons, who were present, are not mentioned.

Death is often a wonderful beautifier of the human countenance. On Napoleon's features it had acted wonderfully and very advantageously; the general observation on seeing his corpse was, "How beautiful!" and all confessed to having never seen features more regular and more mild. The Italian cast of the profile was obvious in all its charms; an inconceivable serenity and purity of expression charmed every one, contrasting, as it did, with the turbulent deeds of the great hero. And as his whole life exhibits so many anomalies and things unriddled, so even the inanimate remains displayed similar phenomena. Notwithstanding the awful pains of a malady, which generally emaciates the patient, the corpse of the Emperor was found very fat. The whole frame seemed to have resisted vital encroachments to the very last, like the mind which also had remained unconquered. On the sternum I found a layer of fat one and a half inch thick; on the peritoneum it was two inches; the omentum, the kidneys, and heart, were covered with fat. The heart was remarkably small, and its muscular substance lax, quite different from what is thought to be the case in courageous and great men.

The disease, of which Napoleon died, has been matter of much dispute even during his life. O'Meara had affirmed, that the liver was the suffering organ, which Antommarchi had repeated after him; but the illustrious patient knew (as I said before) his state much more correctly, in stating the stomach to be the seat of his disease—and now the examination confirmed the truth of his assertion. The stomach was found in a perfect state of disorganization; it was all over in a state of inflammatory suppuration. The chief seat of the disease lay just where Napoleon had so often stated it to be, in the pylorus. I could on this place enter with my finger into the sack of an ulcer, which had corroded the orifice of the stomach, but which had been again covered by a slight adhesion of the liver. But the latter was free from any disease, in fact, every organ, except the stomach, was perfectly sound. There were some other peculiarities observed in the body. On one arm, he seems to have used for on some time a seton; on one of the legs I found a little scar as from a wound, which might have been however caused by a small abscess. The thorax was not very spacious, and the round arms and small hands and feet, gave to the body a feminine and delicate appearance. *Partes genitales exigitati insignis, sicut post cerebrum se.* The head was large in proportion to the body, with a fine towering broad brow. Besides these, there were no phrenological protuberances of any kind for indicating any *special* development of any *sole* quality of mind.

The causes of death were therefore obvious and palpable in the diseased state of the stomach; it seemed, indeed, incredible, how Napoleon could have lived so long with an organ, of which there was not one inch sound. Antommarchi was just about signing the bulletin after the English physicians, when Bertrand and Montholon called him aside, and after they had spoken with him, he declined to sign his signature. The reason is easily to be guessed, for by his assent to the protocol, he would have contradicted Dr. O'Meara's diagnosis of an hepatic disease. With the desire of screening O'Meara, and to cast all the odium on the government, as it were, was brought forth, which, in the shape of Gastro-hepatitis, had killed the patient. Now I assert, formally, that there is neither this, nor any endemic disease in this island. Amongst the soldiers there occurred at times (although very rarely), an inflammation of the liver, if they had been too much exposed to the burning sun of Jamestown, but the cases did not amount to the twentieth part of what we had in India. If the men were exposed to wet weather, or in the night air, here, as every where else, diarrhœa made its appearance; and I moreover state, that not one man died during a whole year in a regiment of 500 soldiers, and that that proportion was a constant one during 5 years, in which period not one of 40 officers died. The climate of St. Helena, cannot therefore be called unhealthy. J. L.

ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR, TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. SERRES, Member of the Institute, of the Academy of Medicine, Professor to the Museum of Natural History, Paris. &c., &c., &c.

SUMMARY.—*Connection between organogeny and the zoological idea of the animal series.—The invertebrata considered in reference to the arrangement of their tissues, are permanent embryos of the vertebrata.—Invertebrated monokysts, deutokysts, &c.—Relations between the embryos of the vertebrata and the invertebrata, considered in reference to the manner in which the organs become added one to another in the embryos of the vertebrata, and the tissues in the invertebrata, according to the variability of forms evidenced in the different species.*

Having in my last remarks established the first relation of organogeny with zoogeny, I now pass to a second. If, in fact, zoonites are capable of association like organites, we may conceive that the animals resulting from this association would vary in the same way, as the organs themselves become diversified, in consequence of the mode of union of their constituent elements. The form of animals like that of organs, would then be but a secondary point, and such in fact it is. Thus a chain of *biphora* will be very different from an isolated being, although this chain represents but one animal formed by their union, and this union commences in the ovum (Dugès); so also with the *distomum duplicatum*, for the formation of which from two to six individuals become united (M. Siebold). Again, on viewing beneath the microscope the *logenula enchlora*, we might imagine that we were examining the embryonic kidney of man, or the permanent kidney of the ox, or the still more divided one of the *cetacea*. In all these cases, we find a body composed of similar parts which are associated together in a manner resembling the molecules of a mineral in forming a crystal. Hence it follows that in zoogeny, as in organogeny, the differences of form are derived from the mode of association of the elements. Thus we have radiated animals, as the *medusa*, the *asteria*, the *comatula*, &c., the elements of which are grouped around a central point; elongated ones, as the earth worm, the *tænia*, the *ascaride*, in which the elementary lines are added end to end. From these two elementary forms combined, arise the various forms of those which are neither elongated nor radiated, such as the *hippopoda*, the *rhizophysæ*, &c., as also those intestinal worms which zoologists sometimes refer to a binary, and sometimes to a circular arrangement. We have thus in some measure the repetition of the long bones, the short bones and the flat bones; we have the reproduction of the long muscles, the radiated muscles, and of those, more numerous still, which are neither radiated nor elongated. Zoogeny reproduces organic morphogeny.

The analogy is carried still farther. In organogeny, association is a species of combination in which each combined element divests itself of a part of its characters. It is the same in zoogeny, by association the elementary animals lose some of their distinctive characters, and this loss, as in organogeny, is always proportional, on the one hand to the degree of incorporation, and on the other to the extent of surface by which the associated zoonites are held in contact. It therefore follows that elementary animals will preserve so much more of their individuality as their association shall be less intimate. Thus the zoonites of the associated *botriella* change but little, and the less so in pro-

portion as their pedicle of association separates them further one from another; again, the zoonites of radiated animals combining only by a small surface, preserve their characters almost entire; hence the similitude of the *radii*, of the *asteria*, and of the *rotellina*. In zoonites associated end to end, the contiguous surface being more extended, the change is more remarkable, and even more so still where their association is more intimate. Such is the case with the *annelida*, and some species of *tænia*. By thus following step by step the degrees of incorporation among zoonites, we arrive at the composition of the *crustacea*, a subject which has been so ably treated by Dugès; and, (a circumstance especially deserving the attention of zootomists,) we are enabled to perceive that the essence of the metamorphosis of insects resides in the incorporation of the segments composing the *larva*, and in the modifications which they thereby experience. It follows, therefore, from our preceding observations, that there are, among the lower animals, solitary beings, as we find in organogeny isolated glands; and in the same way as with this organite considered as a *radical*, nature forms by association congregate glands as those of the eye-lids; agminated or contiguous as those of the intestines, or like the kidneys of fishes and the crustacea; conglomerate like the pancreas, the kidney in adult man and the liver; so also with a zoonite, combined in various degrees, nature will produce, congregate, agminated, and conglomerate animals. Here again zoogeny may be considered in some measure as the counterpart of organogeny, a thousand different forms springing from one common basis.

If, even by the assent of zootomists, who, apparently, have been the most opposed to these views, this analogy is founded, we see that through all the dissimilitudes of form, it will be possible for the physiologist to distinguish the fundamental analogy, and so systematically to combine this analogy, as to establish through its means a continued series of organisms and of animals, from the most simple up to the mammifera and man. This grand view of which Aristotle was the originator, is designated in zoology by the name of *animal series*. The supposition of an animal series in zoology is an abstract idea based on organogeny; for, viewed as a whole, the animal kingdom presents to us a determinate number of organic elements and of organs distributed by nature, according to constant laws, to all the beings endowed with animal life. But this repartition does not take place in such a manner that the number of these organs and organic elements is equal in all. The most general law presiding over this distribution is, that of the graduation and succession, whether of the organic elements, or of the organs themselves which concur in the formation of the different animals. The animal kingdom thus offers us a continued and permanent evolution and metamorphosis of the materials of animality. It is a repetition on a large scale of what passes in the evolutions and metamorphosis of organogeny in man. The method of natural classification, reproduces this graduation and inequality of division of the materials of animality; it describes, under the names of classes, families and genera, the most prominent evolutions, selecting for each division a ruling organism, the progress and development of which it rigorously traces through the series. A natural classification is thus merely a table of organogeny, indicating step by step the progress of development. Now, this gradual advance of organogeny in the animal kingdom is only a copy of the successive development of organogeny in man; the one is a repetition of the other. Thus in the animal series as in human embryogeny, the being commences by the most simple vesicular state then it becomes gradually developed by the addition of tissues, and, subsequently, of organs and organisms. The greater the development of tissues and of organs, the higher will be the rank of the animal. Animality and man progress by the same laws. By considering the advance of organogeny under this point of view, we shall be enabled to divide it into two periods; the one being relative to the development of the elementary tissues of the organisms, the other to the development of the organs themselves. From the first period issue the vertebrated animals; from the second, the vertebrata. Now, as in human organogeny the elements of the organisms precede the organs, as the primitive arrangement of the tissues is in some sort but their embryonic state, it follows that in the animal kingdom the invertebrata are permanent embryos, in relation to the vertebrata. Such being the case, we may conceive that the development of the invertebrata, as well as that of the embryo of the vertebrata, should take place in the first instance by the addition of tissues; and such is really the fact. Thus, the most simple of the invertebrata, those by which animality commences, are principally formed of the most simple of all tissues, the cellular tissues modified in various ways. This is the common basis of the *monades*, the *volvoces*, *acephalocysts*, the *ascidiæ*, of a part of the *echinococci*, and of the *polypi*. The life of these animals, distributed equally throughout all their parts is limited to the properties of this tissue, the characters of which are, on the one part, uniformity of function confined to exhalation and absorption, and on the other part a constancy of reproduction when divided. From this elementary composition result the singular properties with which these animals are endowed, as exhibited by those curious experiments where, on turning inside out such of these animals as possess an intestinal cavity, the intestine placed in the situation of the skin, fulfils the cutaneous functions, and the skin, in its turn, performs the nutritive functions of the intestine. The functions of exhalation and absorption are thus displaced at will under the hand of the experimenter, who may also, at pleasure, reproduce and multiply indefinitely these animals by dividing and sub-dividing them. The animals at the bottom of the scale thus sport, as it were, with life and death, and they owe this faculty to the primitive tissue of which they are constituted.

If to this primitive tissue be added the circumferential sanguiferous system, we advance a step in the animal scale, as in some of the *echinodermata*; if the muscular system be added, a still further advance is made, as in the *rotifera*; if these three systems be combined together, we arrive at the rank of the *helianthoida*. Lastly, the muscular system being clearly delineated in the organisation, we see appear the nervous system hitherto confounded in the various portions of the animal. From this new combination arise the *annelida*, the *mollusca*, and, perhaps, even the *crustacea*. These primitive tissues are then the fundamental bases of invertebrated animals; we have thus a complete system of histogeny presented by the comparative anatomy of their structure. The natural classifications being based upon the advance of animal organisation, zoology might, under the guiding genius of a Bichat, be so systematised, that the structure of the invertebrata should be represented by their classification. Thus we might have *monohysts* or invertebrata with a single tissue, *deutohysts* with two tissues, *tritohysts* and *tetrahysts* with three and with four tissues. We should thus see zoology, escaping from its present narrow limits, perhaps exercise over comparative physiology the same influence which the hystology of Bichat has exercised over the physiology of man; for, in the progressing and histogenic composition of the invertebrata, each tissue bearing with it its characteristic properties, the functions, would increase in the same proportion, so that the sum of life or of functions of an invertebrated animal, would be exactly represented, both by the number of tissues concurring in its composition, and by the degrees or stages of evolution through which these tissues may have passed. And in the same way, on considering at their commencement vertebrated animals, we shall see them transiently clothed with the modifications of structure offered by the invertebrata; we shall find their development to take place in the first instance by the addition of tissues, and afterwards by their evolution. Before impregnation, the animal will be represented by a vesicle and a cellular membrane enclosing an oleaginous fluid: this will be a true *monohyst*. After impregnation, the *blastoderma*, whence the constituent parts of the embryo arise, presents two membranes, the one external or serous, the other internal, cellular, or mucous; this would be a *deutohyst*. A little later a vascular membrane becomes interposed between the two first, and this would be a *tritohyst*. Lastly, it would become a *tetrahyst* when the nervous tissue, which commences the development of vertebrata, shall become clearly marked out from the original structures of the animal. If, from this common origin of organogeny and zoogeny, we trace comparatively the development of the embryos of the vertebrated and that of invertebrated animals, we shall see it take place in a somewhat different manner. In fact, an animal, as an embryo, is constantly progressing, either by some new evolution in one of its principal organs, or by the appearance of some fresh organ. Thus, in the primitive state of an embryo, as in that of the polypus or of the entozoa, the intestinal canal is found without a liver or salivary glands. The salivary glands, the liver, and the mouth, become developed subsequently in the embryos as they manifest themselves in the crustacea, in insects, and especially in the mollusca, as far as concerns the liver.

The embryo, as well as the zoophyte and the polypus, is at first devoid of all trace of isolated reproductive organs; the Wolffian and O'Kenite bodies, improperly named primitive kidneys, afterwards appear, and which are the transient reproductive organs of the vertebrata, bearing an exact resemblance to the reproductive organs of the annelida, the mollusca, and the crustacea. The permanent reproductive organs of the embryos of the vertebrata, so different in their ultimate stage, still offer in a transient manner the homogeneousness of sex which we observe in the bivalvular mollusca, and in a great number of entozoa.

The respiratory organs are formed in the invertebrata, as in the embryos of the vertebrata, by the vascular layer of the *blastoderma*, and their difference results from the different relation of this layer with the two others. Thus, in the invertebrata, the vascular layer being intimately united with the external blastodermic membrane, its evolutions will remain combined with those of this latter membrane. Hence it follows that the respiratory organs will always form a constituent part of the skin; that they will become converted into fins, feet, *antennæ*, vesicles, hair, &c., such as they are found in the annelida, the crustacea, and insects. And, on the contrary, in the embryos of the vertebrata, the vesicular layer of the *blastoderma* having more immediate relations with the internal than with the external layer, the temporary respiratory organs will have greater connections with the intestine than with the skin. Such are especially the omphalo-mesenteric vessels of the mammifera and of man, the umbilical or omphalo-mesenteric membrane of birds, and in a more advanced age of the embryo, the *allantois*, or ovo-urinary bladder of the mammifera, of birds and of reptiles. The mollusca, so remarkable among the invertebrata by the development of their intestinal apparatus, will serve as a connecting medium between these two branches; for the respiratory *apices* scattered over the external covering of the *scyllea*, the *tritones*, the *glaucus*, and the *colis;* the *branchial apices* of the *doris*, concentrated around the anus; the respiratory villosities of the *patella* and the *oscabriona;* and, lastly, the branchial cavity buried within the folds of most of the *gasteropoda*, are merely varied degrees of the omphalo-mesenteric vessels, of the *branchial* villosities of the chorion in the mammifera, and of the *allantois*, or ovo-urinary bladder. In fact, it is only in the *cephalopoda* that true *branchiæ* appear for the first time in the mollusca, similar as well to the temporary *branchiæ* of certain reptiles as to the permanent *branchiæ* of fish.

We have already seen that the embryogeny of the heart in the vertebrata, reproduces with sufficient accuracy the permanent condition of this organ in the invertebrata, without its being necessary to admit in the latter class a deviation from the common type of development, or a new plan, according to the expression of Cuvier, in reference to the two hearts of the *lingula*, and which Mr. Owen has discovered in most of the *terebratula*. It is then by a succession of evolutions that the organisms of nutrition become more complex and developed in the embryos of the vertebrata, as

well as in the class of invertebrated animals. Hence it is in these two corresponding states of animality that the terms of comparison must be sought, as well as the relations which bind together the invertebrated and the vertebrated animals, and even the different classes of the latter among themselves. Without this mode of connection, the animal series is inevitably interrupted, and confusion is introduced into the study of zoology, a circumstance which it is impossible to prevent in taking into consideration those animals only which have already reached the term of their development. It is sufficient to observe that the connection and resemblance of forms which serve as the basis of modern nomenclature are applicable only to groups, and not to the entire of the animal kingdom. The secondary divisions, the *genera*, the *families*, and even the *orders* are very naturally connected one with another; but not so with the *classes*, nor with the principal or reigning *divisions*. It is especially between the vertebrata and the invertebrata that the resemblance has appeared of most difficult demonstration, and it is there that all the efforts of classifiers have failed. But if, instead of arbitrarily dividing the field of nature, you include its entire extent within your views; if you embrace within your researches the immensity of facts furnished by organogeny, as well as those already established by comparative embryogeny, you will see these distances become lessened and the gaps become insensibly filled up. You will discover, by means of this method, that the inferior organisms of the invertebrata have their representatives in the organisms of the embryos of the vertebrata and of man. You will find in the fugitive and transient forms of embryogeny in man, and the vertebrata, the fixed and permanent forms of the organisms of the invertebrata. Indeed, of these two orders of organisms, the one will be but transitory, and its forms will have merely a fleeting existence; the other will, on the contrary, be permanent, and its duration will be subordinate to that of the animal itself. The analogies then will be in the structure of the organisms, and the difference in the duration only.

We thus come to the conclusion; first, that the great zoological question of the series of beings, reduces itself to that of the continual series of the developments of organisms considered throughout the whole of animals; secondly, that the differential method exclusively employed in zoology up to the time of the Geoffroys, was, in its nature, incomplete, since it embraced only the half of the question; and, thirdly, that the explanation of animals can never be arrived at without the union of the method of analogies with that of their differences. When this truth, which is now beginning to be received shall be fully established; when it shall be generally acknowledged that the invertebrata are merely the permanent embryos of the vertebrata, we shall no longer see the most elaborate researches upon the infusoria and other invertebrata devoted towards raising these animals to a rank which nature has refused them; we shall no longer find the most celebrated zootomists affirming that the invertebrata are constructed upon a different plan to the vertebrata, and consequently that their rules of formation, and their mode of development can no longer be the same. We shall not see men of the greatest talent wasting their time in superfluous efforts attempting to give a spinal marrow and a brain to the infusoria, the annelida, the mollusca, insects and crustacea, which, in the order of developments, neither have nor can have such organs. In a word, we shall not see in the principles of the science that disunion which contrasts so strongly with the identity of the facts which organogeny unfolds in the development of the beings of all classes.

We find on the contrary, in the application of this new relation, the reason of various characteristic peculiarities of the invertebrata, and which approximate them more nearly to the vertebrata. We shall see in the first place, that the variability of form in the invertebrata, and consequently of their classification, (a variability which contrasts in some measure, with the fixity of forms and the fixity of classification in the adult vertebrata,) is reproduced and repeated by the variability of forms in embryonic life; so that if the embryology of the vertebrata was equally advanced as that of man, and if, according to the system of differential zoology, we divided their embryos of different species and of different ages into classes, genera and species, we should find this classification of the embryos reproduce the principle divisions and marks of that of invertebrated animals. The more we ascend towards the primitive age of the embryos, the more we shall multiply the gedera and species, similar to what we find, in ascending the zoological series, with reference to the polypi, the infusoria, and even the annelida. We shall also perceive, in the second place, that, as in the young embryos, the structure of the greater number of invertebrata is constituted principally by primitive and elementary tissues, the transformations of which cause them to be varied and diversified, as they vary and diversify between them the embryos of the vertebrata. We shall see again, in a more advanced age, that the differential characters of the embryos will be furnished by the alternate balancing of their organisms, especially that of the sanguiferous and nervous systems, and of the nutritive and respiratory apparatus; it is then upon the equilibrium of these systems and apparatus that the distinctive characters of the most elevated classes of invertebrata depend. Lastly, everything that amazes, and as it were, confounds us in the life of invertebrated animals, will be found to have striking traits of analogy in the embryonic life of vertebrated animals, and even of man himself.

CURABILITY OF CONSUMPTION.

(Continued from page 216.)

To the Editor of the 'Medical Times.'

Sir,—In my last communication, I stated that DISEASES OF THE HEART form one class of the antagonisms of which nature avails herself against the invasions of phthisis. The frequency and variety of heart affections, and their important bearing on the malady under consideration, will, I trust, justify my entering a little further into details. That tumefaction of the mucous membrane lining the bronchial tubes, takes place in all cases of disturbance of the central organ of circulation, is capable of demonstration, and will, I presume, at once be conceded. The manner in which this tumefaction arrests tuberculous deposit has been already explained. Disease of the heart, however, will sometimes be found coincident with phthisis. In these cases, the formation of tubercles preceded the cardiac affection. I do not base this assertion exclusively on my own experience: my preceptor, whose opportunities of connecting symptomatological with pathological facts have been equal to, if not more extensive than those of most men of the age, has verified it by the whole course of his practice: in this particular class of affections, a patient who dies of phthisis may have contemporaneously a disease of the heart; but the latter, in every instance, will be found to have supervened upon the former. It may be safely laid down as a general rule, that where the affection of the heart is primitive, the strumous diathesis does not exist. In a majority of cases, where the former is subsequent in point of time, the latter is either arrested and cured, or masked and rendered stationary and quiescent. It may not be uninteresting to add that persons who undergo liquefaction rarely exhibit the ordinary constitutional display when the heart is affected. This is particularly the case, as far as regards the perspirations. Dr. Ramadge has shewn me many cases in his public and private practice illustrative of these positions. When we find, then, a patient with lividity of the lips, permanent distension of the jugular veins, dyspnœa, and anormal action of the heart (without entering into auscultatory minutiæ) we may, with much confidence, pronounce a favourable prognosis. If these symptoms be moderate, such a patient may, under proper treatment, survive many years. I have at times accompanied Dr. Ramadge in his professional visits, on occasions when his opinion was desired on the general health of a family; some of whose members had died of consumption, and where the entire was apprehended to be tainted with the disease. He has frequently been enabled, from the presence of indications of cardiac disturbance, to quiet the fears of anxious parents relative to one or more of their children. *Apropos:* Who has not observed the remarkable exception which gibbous, or hump-backed persons enjoy from the fatal effects of tuberculous disease? This is a singular fact, and worthy of attention. It may be readily accounted for by the displacement of the heart; consequent mucous tumefaction, and an impacted state of the lungs, to which the deformity of the chest in a great degree contributes. Again: has any practitioner met with a case of simple and genuine chlorosis terminating in phthisis? In this malady, there is always some functional disturbance of the heart, which antagonises the disposition to tuberculous deposit. A popular notion prevails, that chlorotic females are either consumptive or likely to become so. It has not escaped the common observation of mankind, that debility is often the precursor and always the attendant of phthisis. The cheek suddenly robbed of its bloom, the eye of its lustre,—

"Pallor in ore, sedens macies in corpore toto."

—apathy and despondency usurping the dominion of the mind, lately so cheerful and elastic; the bud 'of promise fair,' faintly struggling to disclose its petals, and drooping on its feeble stem, present a group of imagery sufficiently melancholy to awaken the worst forebodings. It may console this unhappy class of patients to learn that the very series of morbid changes, which the system is undergoing, securely defends them from the greater perils of phthisical disease.

When life has sometime passed its meridian, primary deposits of tubercles are of very rare occurrence. The disease, if met with, had its origin at some anterior period. At and after this time of life, there is a venous preponderance producing mucous intumescence; this is not necessarily so considerable as to superinduce catarrh, but sufficient to prolong the expiratory act,—the sure sign of obstruction somewhere in the respiratory organs. The practised auscultator will readily detect the prolonged expiratory murmur. From this we might deduce as a corollary, however heterodoxical it may appear, that a certain amount of disease is almost essential to prolong life to the full term of its natural duration in this climate. Even our winters, by causing suppressed cuticular secretion, internal venous congestion, and mucous tumefaction, &c., have a share in impeding the advance of diseases that, otherwise, would have had an earlier fatal termination; if the climate has its bane it contains also the antidote. Looking at the question in the light I view it, the very variableness of the temperature, so far from increasing the amount of phthisical mortality, actually decreases it.—I now proceed to the next division of my subject.

Tumours of any Sort on the Windpipe, or its Division.—These are useful agents here in the hand of nature. The first I shall notice is bronchocele. The mechanical pressure of this kind of tumour is sometimes lateral, and sometimes in an antero-posterior direction, according to the form and place of its enlargement. The amount of obstruction determines the amount of pulmonary enlargement, vesicular emphysema, and dyspnœa. I appeal to the experience of medical men, whether they have ever witnessed a case of fatal phthisis in a patient labouring under bronchocele? No cavity can exist in the lungs, in the face of such an impediment. Let me again repeat it,—here the contraction of the windpipe prevents the free egress of the air, imprisons it in the air cells, and makes the lungs excessively voluminous, i. e., though the bony compages of the chest are pushed outwards in every direction, and the convexity of the diaphragm diminished, yet the expanded lungs not only fill up the additional space thus gained, but would occupy more if obtainable. How is it possible that under these circumstances an excavation can exist in the lungs? or that small cavities, formed by the recent solution of tubercles, from some accidental affection, should not be rapidly closed? These may form from tubercles which had lain latent for years, but cannot progress, nor can a new crop arise in this expansive state of the pulmonary tissue.

Enlargement of the thymus gland has a similar effect in protecting children from early tuberculous deposits, and many adults refer their dyspnœal

affections to an attack of croup in infancy, which, I would observe, is always produced and kept up by irritation, from the mechanical pressure of the enlarged gland, acting as a foreign body. When children survive this affection they are generally short-breathed, and protected against phthisis in after life.

A congeries of scrofulous tumours is frequently formed at the root of the lungs; or behind and partially embracing the windpipe: diminishing its diameter and acting as before described. Aneurismal tumours are, also, powerful antagonists to phthisis. I have lately been shewn by Dr. Ramadge, in his valuable museum, a specimen of aneurism of the aorta, protuding at the point where the trachea bifurcates into the bronchi. The case was operated upon by the late Mr. Earl, ten years back, to relieve suffocative dyspnœa.

The operation was admirably performed, the man, however, died; and it appeared, on autopsy, that the opening had been made above the seat of the obstruction, which lay at the bifurcation of the trachea. His lungs exhibited the usual traces of a previously well-marked phthisical condition; arrested, no doubt, by the intervention of the tumour.

Among the other obstructions worthy of note, I might mention enlarged bronchial glands at the root of the lungs, and along the course of the principal bronchial ramifications, and calcareous deposits also, in situations where tuberculous matter had previously existed, but had either made its escape or become absorbed.

DISCIPULUS.

(To be Continued.)

EXTRACTS FROM FOREIGN JOURNALS.

(From the Berlin Medicinische Zeitung, for the 'Medical Times.')

On the Puerperal Fever in Peitz, 1842.—By Dr. SCHLESIER.—This paper contains some observations on puerperal fever, but of no practical value: he gives six cases, which he considers as completely formed puerperal fever, two of which died. Some of the cases were without any local affection of the uterus, but with typhoid symptoms. The 1st case was cured by bleeding, large doses of colomel and mercurial innuction—the 2nd, after a relapse terminated fataily on the 21st day, the treatment was bleeding general and local, mercurial innuction; digitalis and kali hydroiodic to set bounds to the exudation with which the case terminated.—In the 3rd, of which the symptoms are not given, phosphoric acid had a surprisingly good effect.—The 4th was fatal, but was certainly not a case of puerperal *peritonitis* but rather of puerperal irritation, causing attacks twice daily of ague. These were reduced to attacks at intervals of from one to two days, by strong doses of quinine and opium, and removed entirely by strong doses of decoct. cinchon, and opium, just before the attacks, but this being superseded by infus. arnicæ flor. a relapse followed—the disease was removed in 8 days by returning to the former means. She however died at the end of 5 weeks from a relapse caused by eating some indigestible berries.—The 5th case recovered. The treatment was local bleeding, calomel and mercurial innuction followed by extract rhatan.—The 6th case was cured by extract rhatan.—the woman having irritative fever, consequent on an enormous bleeding, the extract. cinchon. was given, but producing unpleasant symptoms, was superseded by the rhatany extract.

Decoction of Galls as an antidote to Cicuta Virosa, by DR. MAYER.—On the morning of March 13th, four children of 3, 5, 5, and 6 years respectively, having found some roots of cicuta virosa in a brook flowing past their village, ate the greater part of them, supposing them to be parsnips. The youngest child was immediately seized with violent pains in the bowels, vomiting, and convulsions, and expired before aid had been sought, about 1 P.M. The parents of the other children, hearing what had occurred, and having found a root of the plant on one of the children, quickly sent for the surgeon of the place, who sent for me, giving them in the meantime large quantities of milk. When I arrived, about 2 P.M., the three children had vomited a little only, from ipecac. which had been administered. Their whole bodies were cold—the countenance pale and sunken—the pupils dilated and immovable—violent pain in the bowels, and general convulsions. In two, the recollection was quite gone, the third complained at times of noise in the ears, and giddiness, and then fell into a soporific state. In one the breathing was weak, and scarcely audible, in both the others, there was unequal snoring,at times interrupted by hiccough. The heart-beats were without rhythm, often stopping for some time, then followed by stormy palpitations. A large dose of sulph. zinc was immediately given, which was followed by frequent strong vomitings, and many macerated, but easily recognisable, bits of the roots were thrown up. The vomiting was encouraged and eased by bland drinks, and rubbing upon the region of the stomach. At the same time, clysters with vinegar were administered; cold applications to the head, horse radish, and mustard plaisters were applied, and the cold extremities rubbed and covered with warm flannels. Within an hour, the narcotic effect, convulsions, and bowel pain were, in a measure relieved by the frequent evacuations upwards and downwards. The stools were thin, and colored quite yellow, by the bile. A prepared strong decoction of galls was now administered on this day in large and frequent doses, on both the following in less, and less frequent, and indeed with the best effect; for the threatening symptoms became gradually ameliorated. The three patients were completely recovered in 5 days, with no ill effects remaining. The decoct. gallæ recommended by Phöbus and Menrer, or rather the tannin therein contained, in these cases effected everything which could be desired in an antidote. For this most powerful root at this season contained a most intense poison, and it was eaten in considerable quantity. The small root found upon one of the children weighed 15 drachms, and indeed taken upon a nearly empty stomach, about 10 A.M., the breakfast, as is well known, being very early in the country: in fine, the poison had abundant time, during four hours, to develop its destructive effects in such young and irritable subjects. Consequently, the poisoning was very violent, as its effects sufficiently evidenced, and nevertheless the antidote, (after the previous vomiting indeed,) caused every trace of intoxication to disappear in a short time, in a simple, reasonable, and certain manner, without leaving behind the least prejudicial effects upon the health. I can, therefore, with as full justice praise the decoct. gallæ, as an antidote to cicuta virosa, as Dr. Ludicke has praised the tannin in poisoning from strychnine.

Dissection of the dead child was not allowed; the little corpse, although it had lain 3 hours in a warm room, was stiff in every joint; the back, arms, and legs were of a brownish blue color—the fingers greyish blue. The belly was swollen, and sounded on percussion—the face much swollen—the eyelids half closed—the balls white—the corners quite clear, and the pupils strongly dilated; the lips were violet blue, and from the fast-closed mouth and nose flowed out a bloody slime.

The Benefit of Acidum Querci Tannicum in the third stage of Hooping Cough; further confirmed by DR. SEBREGONDI.—Since I employed this excellent medicine, first recommended by Dr. Geigel, in the late epidemic hooping cough, in a great number of cases, at least 90, with an effect exceeding my highest expectations, and which I have already published in the Heidelberg medical annals, I have had opportunities of testing the healing power of this medicine in the latter stages of this disease, and now communicate two, out of many cases I have lately observed.—1st Case: A girl 4 years old had been teazed 3 months with an obstinate cough, for which much medicine had been given in vain. She had an attack in my presence, which I directly recognised as hooping cough. It ended in vomiting and expectoration of tough white mucus, streaked with blood. In the day time it came on nearly every half hour—in the night it occurred six or eight times. Immediately after the attack, the child wished for food; in other respects she was tolerably well, but was manifestly emaciated—her countenance was pale, and the tongue covered with a white slime; the appetite so great that it approached to voraciousness—the abdomen tumid, and the bowels sluggish.

From all these symptoms it could not be mistaken, that she was in the third stage of hooping cough, which had so long continued; with this was complicated a large quantity of impurities in the lesser bowels. According to my views the evil here lay, in a chronic enanthem of the epithelia of the mucous membrane of the cells of the lungs, which, separated in the form of mucus, irritates the tender papillæ of the nerves of the cells of the lungs and mucous membrane of the bronchiæ, and in this manner, according to the well known laws of the healing power of nature, calls forth the attacks of cough to remove this mucus. The affection of the mucous membrane of the alimentary canal, I held as secondary, but yet so intimate that in case I could remove the first, the latter must be relieved. I ordered the following mixture—℞ Tanni puri, gr. vj; ext. Belladon, gr. i; ext. cicutæ, iv gr., solve in infus. sennæ compos. ℥ij; aq. fœnicul, ℥. 8 gr.; althæ, ℥ij. M. half a table spoonful to be given every two hours; at the same time a plaister was laid upon the chest, composed of emplast. cicutæ et adhæsiv. The medicine soon produced fluid stools, and scarce had the child quite finished the mixture than the hooping cough was entirely gone, and did not return, as I was convinced by later visits.

2d Case: My advice was required for a boy 6 years old, who, together with his three younger brothers, had suffered three weeks from hooping cough. The attacks occurred every half hour during the day, and even in the night, as frequent, followed by strangling and vomiting of a small quantity of mucus. The breathing during the free pauses was quick, the tongue coated yellowish—the thirst great—appetite quite gone—the abdomen tense—the bowels sluggish. The boy took the following:—℞. Tanni pur. gr. vij; ext. cicutæ gr, iij; solve in infus. sennæ comp. ℥ij; syr. althæ ℥vj. M. half a table spoonful every two hours. Eight days afterwards the grandfather informed me, that the boy had completely recovered, and also his three younger brothers, to whom I had given the tannin in a simple vehicle, and in whom no complication was present.

A singular Case of Pustula Maligna.—This was caused by the sting of some kind of fly. Besides the malignant pustule, the whole arm was swollen with fever: the lymphatics shewed themselves highly inflamed by red lines along their course. It was removed by the use of aqua oxy-muriatica internally and externally, as a fomentation.

OUR SUBSCRIBERS

Are respectfully informed that the rule is to pay in advance. A number of subscriptions (a long time expected) have not yet reached us, and as we make these obligations debts of honour, we trust that this gentle memento will not need repetition.

THE MEDICAL TIMES.

SATURDAY, JANUARY 7, 1843.

Respicere exemplar vitæ morumque jubebo
Doctum imitatorem et vivas hinc ducere voces.
—HORACE.

WE know, of course, that nothing is more absurd than the folly of offering the Government of one country as a perfect exemplar for that of another. Good is only good in its fitness and adaptation. Circumstances are to things what usage is to words—"the *vis atque norma*, and the legislation which pays no regard to them is about as wise as reasoning without facts, or prophecying without foresight. But yet there are certain broad principles acting in all good Governments, which, based on a number of ideas, forming essentially the moral nature of man, must have, at least, a *general* application to the natives of every country. Amid all our varieties of mental colour (so to speak) and mental form, there is beneath an essential identity of elementary matter, and thus, though the system which is perfection in this region, may be, if unaltered, mischief and ruin in that—it must yet contain *principia* of judgment and action, which, if modified with modified circumstances, are capable of as extensive application as there are human beings to apply them to. To use another illustration—while the frame-work—the body—of a good code, must be lodged, clothed, and sustained, with variations suited to varying temperatures—its essence—its soul—is of all climates.

With these impressions, we have thought that, on the eve of a session in which British Medical Polity *must*, in some way or other, be altered or remodelled, we could not offer a better boon to our legislators, or our readers, who have not yet reached decided conclusions, than, by short and accurate descriptions of the different kinds of foreign medical government, to give them an opportunity of detecting the general principles which should regulate the coming alterations. Our first sketch will be on the *Medical Government* of Austria.

The principal characteristic of Austrian medicine is, its numerous divisions and subdivisions. The military and civil organizations are essentially distinct. In the civil code we have, first, doctors of medicine—secondly, doctors of surgery—thirdly, masters of surgery (*chirurgiæ magistri*)—fourthly, barber-surgeons (*chirurgiæ patroni*) — fifthly, licensed midwives — sixthly, dentists (*magistri dentisticæ artis*). In addition to some of the above titles, additional degrees may be taken, as accoucheurs (*magistri obstetriciæ artis*)—and oculists (*magistri oculisticæ artis.*)

QUALIFICATIONS AND PRACTICE OF THE DOCTORS OF MEDICINE.—The candidate, before he can inscribe himself as studying for this degree, must be at least 18 years of age—or, if extraordinarily distinguished during his preliminary studies, 17—must prove by certificates a course of twelve years' constant education, four of which must have been in the National Schools, six in the Gymnasia, and two at a University, in the Faculty of Philosophy. After inscription as a candidate, which must take place either at Prague, Pesth, Vienna, Pavia, or Padua, he must give five years to medical studies. The examination, on admission, is not represented as severe. The diploma then given, opens the whole Austrian empire to the doctor's practice, without, in any case, an extra charge. If not educated in Vienna, however, he must, if he would practice in that city, undergo a second examination, which is considered a very rigid one.

Doctors of medicine are restrained, under a penalty of from 10 to 50 ducats, and various periods of imprisonment, to purely *medicinal* practice. Accouchments are forbidden to them.

The position of doctors of surgery is analogous to that we have been describing, except that their studies take a surgical direction, and that they undergo a *severe* examination. Medical practice is forbidden to them as well as all ocular operations, unless there be a special diploma. As doctors of surgery, in addition to their own especial branch of science, have been obliged to master that of medicine also; and as Government extends its patronage by preference to those who have the double qualification, there are now very few doctors of surgery who are not doctors of medicine also.

The special diploma for *Operative Surgery* is open only to the masters of surgery, or those who are doctors both of medicine and surgery. They must study solely in an establishment at Vienna, founded in 1807, by Dr. Kern, and called the "Operating Institute." The studies must extend through two years, comprise both the theory and practice of operations on the living and dead subject, and are finished by an examination. There is no limit to the number. There are twelve operative students, who have more or less distinguished themselves, constantly kept at the expence of the State.

The degree of master of *ocular* medicine and surgery, is obtained by doctors of medicine and surgery, and by masters of surgery, after a special study of the subject, accompanied by strict proof of ability in that branch of science, and by success in several public operations. Before operating on the eye, this special diploma is indispensible.

The diploma of MASTER OF MIDWIFERY, though not essential to doctors of surgery and medicine, is so to masters of surgery. The preliminaries are, a rigid examination, two months' special practice, and a payment of 30 florins.

The MASTER OF SURGERY is required to prove having passed four years studies in the National Schools,—having attended three years more in the Grammar School of his district—having regularly attended each half-year in his classes—and an adequate knowledge of Latin. His professional studies take place at one of the Universities, and cost him nothing for fees. They are shorter than those of doctors, and give the right of practising all over the empire. He is restrained by heavy penalties from practising beyond the limits marked by the character of his diploma or diplomas. When there is no "doctor," however, during epidemics, he is allowed to practise medicine.

The BARBER-SURGEONS (*chirurgiæ patroni*), or petty surgeons, must have spent four years in the National Schools, and either given five years to the study of "the Humanities," or lived three years as apprentices in the shop of a patronus, who is supposed to have taught them Lat

their knowledge in which is proved by a jury formed of the State physician of the district and a certain number of "*masters*" and "*patroni*" of surgery. All this being attested by certificates, their course is now similar to that of the "masters." After undergoing several minor examinations, they are submitted to a general examination, which is final. The whole expence, including a diploma for midwifery, which is made essential, is about 85 florins.

The treatment of internal maladies, the greater operations, and ocular surgery, are not, under a heavy penalty, permitted to the "patroni." These men are under singular laws.—First, the diplomas acquired at Saltzburg, Laybach, and Clauserbourg, are only of use in their respective provinces.—Secondly, unless in a State appointment, the patronus cannot set up in business, except as in the case of our publicans—he buys the shop of a retiring patronus, or has a shop conceded to him by the local magistrates. Before 1836—when Government made the sale of one of these shops contingent on its purchase by a medical man—these shops were bought by a tradesman, or even a physician, on speculation, and confided to the care of a patronus, who shared the profits. Not unfrequently they were managed by the widow, who similarly arranged for her customers. Besides the proprietors, there are occasionally in these shops a number of assistants, apprentices, or even patroni, acting under their responsibility.

Like many of our druggists in England, the patroni carry on various other businesses, —sometimes they are barbers or farriers, grocers or cab-owners,—and, like our druggists they are frequently charged with engaging in practice far beyond the reach of their moderate skill, to the serious injury of the fully-qualified practitioner.

Military Medicine.—As we said, this is entirely governed by its own peculiar laws. The special school is at Vienna, where an unlimited number of pupils are lodged, fed, and taught at the expence of the State. There are six grades of medical men in the army. The principal physician, the *Oberstfeldarzt*, an aulic counsellor, in the receipt of 1 000 florins yearly—the *Stabsarzts*, or Inspectors-General, of whom there are twelve, receiving 800 florins yearly—the *Regimentzarzt*, receiving 600 florins—the *Oberarzt*, in the receipt of 200 florins. All candidates for the above ranks must be doctors of surgery and medicine, and possess diplomas as accoucheurs and oculists. Besides these, there is the *Unterarzt*, surgeon to a company, with 168 florins of an appointment—and the *Feldarztliche Gehilfe*, or assistant-surgeon, with 168 florins also.

The army doctors are engaged for a limited number of years. Those who, in their studies, received a pecuniary allowance from the State, serve fourteen years—those who have studied at their own expence, are only held to serve eight years. While in service, they may exercise their profession in the towns in which they are stationed; and, on retiring, they may practice in every part of the empire, without any further formality or payment.

WESTMINSTER HOSPITAL.

Mr. Guthrie's Clinical Lecture on Injuries of the Head—Case of Spontaneous Cure of Femoral Aneurism—Amputation of the Finger by Mr. Lynn—Improvement in the Affairs of this Hospital.

Sir,—I had the curiosity to step into the Westminster Hospital last Saturday about one o'clock, and was not a little surprised to find an activity and bustle for which I was totally unprepared at this holiday season of the year. Instead of finding all deserted, as I expected, the entrance hall of the hospital was in commotion with students, and following the throng, I was soon carried into the operating theatre, where Mr. Guthrie had just commenced his clinical lecture. The lecture happened to be on cases of injuries on the head, resulting, no doubt, from the *boxing* system so much in vogue at Christmas time. As the subject interested me not a little, I shall endeavour to give you some account of the lecture.

The first case to which the learned lecturer referred was of peculiar interest, and in placing it before his attentive, I might say enraptured, audience, he realised in my opinion, the *beau ideal* of clinical instruction. It was not a lecture doled out from some book of surgery. It was not a lecture that might be made to suit every such case that has existed, or may exist; it was not a lecture, in other words, of indiscriminating generalities, but a lucid exposition of the *peculiarities* of the cases before him, the *reasons* which induced him to form his diagnosis and prognosis of each case, and to change and modify the usual plans of treatment. I cannot pretend to follow the learned lecturer through all the details of his lecture, I can only refer, and that in a general way to the outlines of his discourse. The first case which principally occupied the attention of the lecturer was that of a man who fell from a height of about thirty feet, the back of his head striking the curb-stone of the pavement. The integuments were lacerated, but no fracture could, during life, be discovered. The patient was taken up in a state of total insensibility, with the pupils contracted and the respiration diaphragmatic, accompanied with a puffing or whiffing of the air from his mouth. The patient died, in a few hours after his admission into the hospital, and on inspecting the body a fracture or rather fissure was discovered in the base of the cranium, on each side of the foramen magnum. There was also an effusion of blood on the surface of the brain under the dura mater, and also a laceration of the anterior lobes close by the sides of the crista galli. Mr. Guthrie gave a very luminous explanation of the more prominent symptoms of the case, more particularly those mentioned above, and endeavoured to explain them as far as possible on physiological principles, and was most happy and successful in pointing out the *relative value* of each symptom in the establishment of a just prognosis in such injuries. Sterterous breathing, bleeding at the nose and mouth do not necessarily indicate danger. Even bleeding at the ears, though a more unfavourable symptom, does not necessarily indicate imminent danger; but if the patient, as happened in the case under consideration, puffs or whiffs the air from his mouth as we puff or whiff the smoke of tobacco, and if this symptom exist along with pure diaphragmatic respiration, the case is hopeless. Mr. Guthrie had never seen a case of recovery in which the last-mentioned symptom existed. That symptom, (pure diaphragmatic respiration) may be viewed as the most unfavourable of all the unfavourable symptoms, and the invariable precursor, therefore, of dissolution. In the treatment of the case little was done, and the postmortem examination so far as it went (for the spinal cord was not inspected) shewed that no human efforts could have been of the slightest avail.

In the second case that of a boy who fell from a height of fifteen feet; the symptoms though somewhat peculiar were less urgent than in the foremost. Six days after the accident the boy became comatose, and in this state was carried into the Hospital with a very low pulse, (about fifty) contracted pupils, and twitching of the muscles of the face. Mr. Guthrie ordered, at first, a very cautious detraction of blood. Four ounces were first drawn off, which proving to be buffed a further detraction was followed up with good effect both upon the pulse and sensibility of the patient. From the good effects of the bleeding rather than from the nature of the symptoms, Mr. Guthrie, conjectured, that the vessels of the brain had been in a state of great congestion, and that, possibly, a partial effusion of blood had taken place. The bowels were kept freely open with calomel, combined with resinous and saline purgatives, rest and low diet strongly enjoined, and the affection, Mr. Guthrie states, is fast progressing to a favourable issue.

At the termination of his remarks on injuries of the head, Mr. Guthrie introduced a case of extreme rarity to the pupils, which, he said, they had not seen, and would never see its like again. It was the case of a man who had been successfully operated upon for popliteal aneurism, who became subsequently affected with a femoral aneurism of the *opposite* thigh, and which aneurism underwent a spontaneous cure. Mr. Guthrie had no doubt that the pulsating tumour he had examined, was an aneurism of the femoral artery, and he had urged the man to submit to an operation. But fortunately as Mr. Guthrie remarked, the patient did not follow his advice. Sometime afterwards, when the patient was engaged in some trifling occupation, he felt something give way with a crack, attended with little pain. The tumour, the patient says, was immediately afterwards obviously less, and gradually diminished till it entirely disappeared. From the want of pulsation in the upper third of the femoral artery, that artery appears to be now obliterated, but how that was effected Mr. Guthrie did not attempt to explain.

After the clinique of Mr. Guthrie, Mr. Lynn introduced into the operating theatre a case of ulceration of the cartilages of one of the joints of the forefinger. The disease had resisted the usual means of cure, and the question came to be, not so much whether the finger should be amputated, as whether the amputation should take place immediately above the diseased joint, thus leaving a part of the first phalanx of the finger; or at the joint immediately above that, viz., the metacarpo-digital articulation. The consultation was carried on in a very edifying manner before the pupils, by Mr. Lynn, and that most excellent practical surgeon Mr. White, along with some of the lecturers of the school. It seems to have been the opinion of the majority, that a more useful hand to a labouring man, such as the patient, would result from the removal of the *whole* finger. The operation was accord-

ingly performed with great neatness and dexterity by Mr. Lynn. Mr. Lynn is evidently a highly experienced and judicious surgeon, and cannot fail to be sooner or later, appreciated by the public. It is only amazing that the public have not already done greater justice to his merits.

This casual visit I made to the hospital was attended with much pleasure, and I am not ashamed to add, some information. I assure you, Sir, it is quite refreshing to observe the spirit and zeal which now animates the medical officers of the Westminster Hospital. Whether this is attributable to your friendly admonitions, I cannot tell, but the hospital is now evidently much improved, and if its affairs are managed every day as they were conducted last Saturday, it cannot be long ere this school rank among the most celebrated in London, both for the quality and quantity of the instruction it affords.

If the above report is deemed suitable for your excellent Journal, you may make what use of it you think proper.

AN OLD PRACTITIONER.

Westminster, January 2, 1844.

THE THORACIC AND ABDOMINAL VISCERA.

(St. Thomas's Hospital.)

At the last evening Conversazione at St. Thomas's Hospital, which we partly noticed, on Dec. 24, Dr. Hodgkin communicated to the meeting some interesting and original observations, regarding the extent and relative position of the thoracic and abdominal viscera in health and disease. Addressing the audience he said, I confess I feel considerable difficulty at this late hour, in attempting to bring forward the subject announced to be read before you by me this evening; however, I feel that it is due to, and, that I should not be doing justice to my valuable friend, who has entrusted me with this communication, if I did not make a report of his examinations, and the result of his labours to you; and I conceive it is scarcely necessary that I should make any apology for an attempt to treat of the subject of the diagnosis and distinctions of disease, or that I should be considered stepping out of my proper course.

Then, with a view to arrive at a general knowledge of the disease of any part, it is quite obvious that it would be essentially important, that we should know the situation of the parts. We are very often led to suspect that an organ is diseased and when we know its situation, when we distinguish something unusual in the situation of that organ, and as some of the organs are, from their situation, placed out of the reach of sight and touch, it becomes increasingly important that we should call in every assistance in our power to arrive at a knowledge of their situation. Such has been the effort of the gentleman who has communicated to me, the paper of which I shall merely attempt to give you, in outline, the principal facts resulting from his labour and his discoveries. I would not, however, have you suppose that I speak for the first time on this important subject, or that the paper I am communicating to you is the first that has been written on this subject, the situation of the thoracic and abdominal viscera:—I should feel that I should be doing injustice to another valued friend if I did not very briefly allude to the labours of my friend Dr. Edward Harrison, who was one of the first, and the most accomplished of those investigators of the diseases of the chest, who had the great advantage of studying under Laennec, the inventor of the stethescope. The labours of Francis Sibson are very analagous to those of Dr. Edward Harrison, and they are found strongly to confirm each other. Though Dr. Edward Harrison has not published as much as it is to be hoped he will do, you may probably be aware of one important fact which he has pointed out, namely, that the abdominal viscera encroach somewhat more on the organs of respiration than is generally supposed to be the case. I am not by any means stating that all anatomists and practiced observers, have been usually mistaken on this subject; still from the form of the chest they have a greater tendency to occupy a greater portion than probably belongs to them. Dr. Edward Harrison points out one interesting fact among others to which I will just call your attention. Near the roof of the ensiform cartilage or a little above, there is a bulge on the right side almost in the situation of the thick part of the liver. We may consider the abdominal viscera as soft moveable ingesta enclosed in coats, appearing almost like the fluid contents of a bladder, and of a somewhat round figure. Placed in this situation, we have the round form of the full abdomen, then the lower portion of the liver with the thin covering over that, and the ribs again upon it, then the pressure of the muscles, which makes it assume somewhat the form of the rounded abdomen, which will bear some muscular pressure, tending to produce a depression above the thick part of the liver. I will not pursue this subject further, except to observe that Dr. Edw. Harrison has also pointed out the right way of indicating the position of the apex of the heart resting on the diaphragm. I felt interested on this subject from the first, and I now find from some of the antique statues, that some of the ancient sculptors must have been aware of the fact. I have a drawing of a Faun from the Vatican, in which this bulge is distinctly seen. Thus much, I thought, due to Dr. Harrison to preface. My friend Francis Sibson, the house surgeon of the Infirmary at Nottingham has directed his attention in the same direction (though he was previously perfectly ignorant of what Dr. Harrison had done) and he very soon was led to discover the fact that the liver, and the whole of the abdominal viscera somewhat more encroached on the respiratory organs than he suspected. On examining the subject very carefully and investigating the mechanism of inspiration and expiration he noticed some facts which had been observed before, and, therefore, were not totally unknown; but they had not been so generally pointed out as could have been desired. Amongst these he recognised the fact that the lungs ascend considerably higher above the clavicle than was ordinarily supposed, about two or three inches, and dissecting that part, he observed the important use of the Scaleni, as Dr. Williams has very ably shown in his work on the diseases of the chest; and Mr. Sibson has pointed out a small muscle or accessory Scaleni, having a similar origin attached to the external pleura, which covers that portion of the lung. I will not go into the minutiæ of the situation of the pleura which he has pointed out in the cases of emphysema, where the descent of the diaphragm is much lower than usual, so as to be somewhat below the ensiform cartilage occasioning the liver to descend. In cases of pthysis, too, there is an elevation of the pleura of the lungs. In order to ascertain the position of the parts lying beneath the chest, Mr. Sibson has adopted a plan similar to that used by Benjamin West to trace forms and transfer them to paper. It consists of a frame with lines crossing each other at right angles in different directions; this is placed over the object, and upon a piece of paper similarly divided by lines you can make a sketch—though you may not be an artist—sufficiently accurate to determine the situation of the organs. One part of the method was having, by percussion, ascertained the situation of the different organs, to mark them out, and by this means the situation of the viscera became distinctly indicated; and when he came to examine some diseases, such as enlarged heart, or effusion into the pericardium, some very curious results were in this way discovered. Whilst alluding to the situation of the liver, it is worth while to notice a fact observed by this gentleman, and which appears perfectly to accord with what Alex. Shaw has said with respect to the circulation through the liver. In respiration, the descent of the diaphragm was greater than the descent of the lower margin of the liver, serving to show that in the movements of inspiration and expiration the liver must be compressed, and when we consider the character of the circulation, but especially the circulation through this organ, it will at once be perceived this must materially influence the amount of blood in these visceras. This is a very important addition to the researches of Shaw laid before the British Association at the last meeting. It shows that those diseases of the chest that tend to limit the movements of the diaphragm tend to produce diseases of the liver. No part of Mr. Sibson's observations is more important than his remarks relating to the situation of the heart. When it is materially enlarged, its circulation, like in emphysema of the lung and pneumonia, has the effect of depressing the diaphragm pretty generally. When the pericardium is distended, either by inflammatory effusion or secondly, as Mr. F. Sibson sometimes produced, by an artificial dilation after death, there will be produced a more considerable bulge, than by the enlarged heart which occasions a more generally diffused change in the external appearance. We may apply this to cases occurring in the living subjects, that is to say, effusion into the pericardium, making a further extension at stated periods: and Mr. Sibson has observed that the increase of the pericardial effusion, as might naturally be expected, generally increases the extent of the fullness felt on both sides of the sternum, up almost to the clavicle, and lower down depressing the diaphragm much higher than is the case with the enlarged heart; for this reason, that the extent of the fluid is distributed over a greater space, places the lungs apart, increases the separation between the two upper lobes of the lungs and produces a greater elevation of the dull sound than is the case with the enlarged heart. As we trace the progress of the disease we shall find we come to a peculiarity which it is right to observe,—we find a diminution of the fulness; but, after a certain period, a greater increase of the fullness above takes place. This, Mr. Sibson attributes to the very important fact that adhesion has taken place; and when adhesion has taken place between the two surfaces of the pericardium, the amount of dullness is greater, although the space is not large. Then there is another curious fact, which is observable in those cases of adhesive pericardium. I have mentioned the movement increases the ordinary respiration, and naturally extends the resonant portion of the chest, and also affects the non-resonant portion of the chest; therefore, if we take the fullest inspiration, the situation of the dullness will descend, and we have a highly increased amount of resonance above that where the complete adhesion of the pericardium had taken place, and there is not the same amount of motion, and

the dull portion of the chest corresponds to the pericardial adhesion, and corresponds to the region of the heart. I shall now advert to another interesting fact that has come to light in the examination of the movements produced in respiration. Mr. Sibson paid particular attention to the movements of the ribs, and he noticed that whilst there was considerable movement in the lower ribs, there was less separation between the 7th and 11th ribs than the other ribs; and this calls to my recollection a fact I have constantly observed in the numerous inspections that it has been my place to make:—I was considerably struck with the fact, that whenever the cartilages of the ribs are ossified at all, it is almost certain to be the cartilages of the 7th, 8th or 9th ribs. I did not comprehend the cause of this, whether it was disease or not. It appears to me, now, from what Mr. Sibson has pointed out, that there is less mutual movement between these ribs than the others, which seems satisfactorily to account for the cartilages of these ribs being more prone to become ossified than other ribs. Some observations have been made with regard to the situation of the stomach, which is a very important organ for us to ascertain the situation of, more so than appears to be the case at first sight; inasmuch as the situation of the stomach enables us, on the left side, very accurately to determine the situation of the diaphragm, and the situation of the heart above it.

In bringing this paper to a conclusion, I should observe, that Mr. Sibson assures me that the constant repetition of this mode of investigation, and recording the limits of the different organs in this very accurate manner, has had the effect of making him so intimately acquainted with the portions of the organs, as if for a moment the whole of the flesh and the skin of the ribs was removed, he has such familiarity with the situation of the organs as greatly to facilitate his knowledge of their condition. I have no doubt that much of this knowledge will be useful to others. But there is one important reason which has induced me to bring forward this subject, namely, to allude to the fact of the great addition to our knowledge from such researches, and to those made by the *Societé Medicale des Observations* of Paris; their statistical character and their great accuracy in determining disease independently of the important facts thus brought to light, must, undoubtedly, be of great importance. In this way we may hope to arrive at *clairvoyance*—not like that of the advocates of mesmerism, but one easily within the reach of all, and thus arrive at a knowledge, which others have been represented as acquiring through the mystery of the operation of the mesmerisers. It is only by individual application that we can hope to arrive at this most important knowledge—the locality of the organs, and consequently the state, and the amount of disease. Having thus brought before you, in a very imperfect manner the result of a very laborious *suite* of investigations, I cannot conclude without expressing that, as a member of the medical profession, Mr. Sibson is warmly entitled to our encouragement and thanks.

Hairs Growing on the Tongue.—The patient was a medical student, who after complaining for some time of dyspepsia and a *sticky* sensation in the mouth, discovered hairs of considerable length grew from his tongue. They were detached in vomiting, but they grew again, and when the author saw him they were an inch long.—*Dr. Forbes's Review.*

THE CRICHTON INSTITUTION FOR LUNATICS.—DUMFRIES.

We have just received the able and extremely interesting Annual Report of this Asylum. It is ably drawn up by Dr. Browne, the resident physician, and we cannot deny ourselves the pleasure of placing before our readers a few of the more interesting extracts. It appears that the inmates of last year, including the new admissions, numbered 125. Of these 18 were discharged recovered, six were removed, or improved—eight died. This statement leads to the following judicious remarks—

On Asylum Statistics.

The mere numerical results of treatment during the past year, are satisfactory. The proportion of recoveries to admissions is higher, and of deaths to the daily average of inmates, is lower than is generally the case. But such facts must not be received as evidence of the curability or the mortality of the disease. Were they regarded in this light, they would represent the former lower, the latter higher, than they really are. The truth is, that except in cases of extreme poverty, or where the manifestations of derangement are a nuisance or a source of terror, patients are not consigned to public institutions until they are found to be intractable—until the established resources of medicine have been exhausted, and they are regarded as incurable. Asylums have thus become retreats for the confirmed insane, rather than hospitals for the cure of insanity. The higher the rank of life to which the patient belongs, the more protracted is the ordinary treatment, the greater is the repugnance to have recourse to isolation. In private practice, where recent cases are promptly and judiciously treated, the success is great, and ought to be so, seeing that of chronic cases, which have been treated and despaired of, 35 per cent. are, under isolation, restored to comparative sanity. Other circumstances disturb such calculations. The majority of patients enter Asylums infirm, debilitated, diseased; many labour under complaints which are inevitably fatal, a circumstance tending to raise the apparent mortality of the confined insane. Relations often remove patients when dying or in danger, a circumstance which tends to diminish the apparent mortality. The amount of recoveries is, in like manner, not fairly estimated. The standard of sanity held by physicians in charge of the insane, and by which they measure the capacity of individuals who have improved, or are improving, is too high, and abstract, and fluctuating: is not, and cannot be, founded upon a knowledge of the previous mental calibre and character, but is framed from their own notions of what ought to be the sane and healthy state in each case. It will correspond to the intellect and acquirements of the physician, and not to those of the patient. A jury, collected in the ordinary way, would be more competent judges.

The following instances are interesting as illustrative of that too common phase in mental hallucinations—

Suicidal Mania.

That a correct notion may be formed of the ingenuity and reflection exercised at a moment of extreme despair and despondency, and upon the brink of eternity, and of the foresight and attention which are at all times, and under all circumstances, necessary, and which, however well devised and rigid, may be, and will be, frustrated, a few examples of the contrivances resorted to may be given. A young man, a volunteer into our community, was bled by leeches in the temples; a towel was, by the care and kindness of the attendant, bound round his head; he retired to bed, was repeatedly visited by the night-watch, and, upon one occasion, was detected endeavouring to suspend himself by means of the towel to the corner of his bedstead. Another, a well educated person, baffled in his design and effort to arrest respiration, by the small size of the pocket handkerchiefs which are issued, attempts to surprise the attendant engaged in shaving him, by starting suddenly, and forcing up the razor against his throat. A gigantic and powerful man, instigated by the agony of terror, and the impression that he was to be sacrificed, after incessant struggles to destroy himself, and all those around, was found in the act of self-strangulation, although his hands were partially confined in order to prevent the accomplishment of his designs, and although he must have known that he was almost under the immediate supervision of the night guardian. Foiled in this plan, he refused to take food for several months; but discovering that the wants of the system can be supplied by means of the oesophageal tube and feeding funnel, in defiance of the will of the individual; and as we have remarked in similar affections, although willing to endure death, unwilling to endure a disagreeable but transient sensation, he abandoned abstinence as ineffectual, but, at the same time, attempted to break, crunch, and swallow window-glass, with the same design. To meet this combination of distressing symptoms, it has been necessary to associate a supernumerary with the ordinary attendant of the gallery. A young woman possesses herself, while in the airing ground, of stones and pieces of coal, to which she gives angles and sharp edges by rubbing on the walls. She then swallows them thus prepared, and so far succeeds as to obstruct the deglutition of solids for weeks. A lady, long a member of our family, who had won the affections of all who could appreciate her gentleness, or estimate her suffering, passed through the various stages of anxiety, gloom, dejection, until under the promptings of a permanent despair, she seemed to concoct a scheme for self murder, in which every accessible means were to be tried in succession, and of which she spoke with composure, even with mirth, admitting, at such moments, that she had not fortitude to extinguish life suddenly. At first this design may have been suggested by a desire to put her boasted immortality to the test, or to prove it to the sceptics around, for she avers and believes, and there is no faith so sincere, genuine, and steadfast, as that of the insane, that she will not and cannot die; but, subsequently, she became incapable of devising or abiding by any consistent plan, and in refusing food for months, in attempting strangulation and precipitation, she obeyed the ruling impulse of the moment, to escape from exquisite pain. Her determination being known, she was placed in a room, from which every article of furniture was removed—which, in fact, contained nothing more than a French bed, without canopy, and a carpet. Notwithstanding these precautions it was ascertained that she had pulled the carpet from the floor, collected the nails by which it was secured, and swallowed twenty-four of them. She was then removed to another apartment, where there was no carpet, and an attendant was appointed to remain constantly with her. The bed in which she lay was covered with cotton chintz, which was attached to the wood by nails. Stealthily, silently, and without changing her position, or disturbing her companion, she succeeded in extracting a number of these, which were likewise swallowed. Since this period she has stolen and introduced into the stomach a thimble, and a small padlock. But what is even more startling and instructive, is her confession that when comparatively sane and serene, when most trusted, and most worthy of confidence, she was in the habit of devouring stones, pins, needles, and other small objects innumerable, with the settled resolution to sap the foundation of her strength and life.

Recreation of the Insane.

In a country like this, it is natural that industry should be insisted upon as an important agent in the treatment of insanity. But recreation, if well selected, is but occupation of a cheerful and agreeable kind, and has certainly been less systematically employed as a means of cure than it deserves, and than a consideration of the capabilities of the unhinged and unhappy mind could warrant. In accordance with these sentiments, the patients have participated in every public amusement which combined present gratification with prospective benefit, and in which they could mingle without excitement or injury to themselves, or offence or disturbance to others. They have

formed part of the crowds which frequented the rooms of the Exhibition of Paintings and objects of Natural History, indulging each one his own taste or fancy, unnoticed and undistinguished. They have examined and criticised unsparingly specimens of historical painting; one is a member of an Art Union; others have visited the sculptor in his studio. They have witnessed races and regattas. The camera at the Observatory has presented them with a map of Nithsdale, and transported them in fancy to distant and interesting objects, the antiquities or picturesque beauty of which they have at other periods been enabled to inspect by the assistance of the omnibus, which has carried parties to Carlaverock, Newabbey, Lochmaben, Friars' Carse, &c. They have made pedestrian excursions; they have fished in the river. They have been auditors at Concerts for music of various kinds; at lectures upon Temperance. They have been spectators at the Circus; and latterly the Theatre has been an object of great attraction. This predilection has been encouraged for many reasons; but chiefly because the Drama conveys much amusement, and some information, without imposing either sustained mental exertion or attention, supplying pastime without passion, knowledge without study; suggesting truth by means of fiction; and appealing to the happy, the cheerful, and mirthful parts of our nature. Of the correct conduct of those who attended, and of the unobtrusive but evident expression of enjoyment which they gave, their sane companions may speak. At home, concerts, public readings, evening parties, dances, games at bowls, billiards, summer-ice, cards, chess, backgammon, have afforded means of diversifying the dull routine of discipline; although, perhaps, the exhibition of the magic lantern yielded the most unalloyed pleasure, and to the greatest number.

Mental Culture of the Insane.

A determined suicide has been seduced, into temporary forgetfulness of his woes, and afforded an exemption from his purpose while translating Guizot and Vertot, turning from the transcendentalism of the former, to the bald narrative of the latter, as less trying to his powers. Another gentleman, who is omnivorous in reading, and passes over all works with a railroad speed, has been placed in connexion with a book-club that his insatiable appetite may be more readily supplied. Our own small library is in constant circulation, as may be learned from the fact that during the year that has terminated there have been 45 readers, and about 700 issues of volumes or works have been made. These are regular students, and do not include the casual readers, or the triflers over newspapers and periodicals. At one period the following books were in the possession of patients—Thierry History of the Norman Conquest, D'Aubigne's History of the Reformation, Gil Blas, Shakspeare, and many of Sir Walter Scott's novels, &c., a catalogue which shows the varied and elevated tastes which must be supplied, and the identity of the pursuits of many of the insane with those of men of strong intellect and fervid genius. To one of these students a daily task was allotted, and he subjected himself to examination by the medical attendant, in the same way that a course of history should be conducted. Another busied himself in compiling a common-place book; a third translates a treatise upon Dipsomania, ostensibly to facilitate the labours of the Superintendent; a fourth scans the newspapers, and extracts all facts bearing upon a topic of interest; while a fifth actually furnishes to a periodical the creations of his fancy. The more remarkable events of our recent domestic history have been chronicled by an individual whose former literary habits and professional pride are both gratified in officiating as the delineator of what others see and feel, but cannot describe. Indeed so numerous are the educated, the imaginative, and the learned, among our inmates, that an Asylum Annual is contemplated, and in progress. These avocations are not imposed as burdens; they are suggested as recreations; the mind is occupied, not taxed or fatigued. In a case where intemperance had first enfeebled the reason, then prostrated the will before the habit of indulgence, and ultimately swept away the acquisitions and accomplishments of a respectable education, instruction was resorted to as a means of cure. The man who had lost, or, by his own conduct, had obliterated the first elements of knowledge, was taught, and successfully taught to spell, and write, and cypher anew. The effort was made to reconstruct the mind from its own ruins; to restore it stability by giving to it the power to act in new combinations, and independently of the propensities.

Singular Effects of Opium.

Opiates have been administered, less, however, for the purpose of inducing sleep than of subduing restlessness and excitement, of soothing and tranquillising irritation, and of testing the strength and efficacy of different preparations. Some of the drugs were given to such an extent as would startle those who repose confidence in the time-honoured doses of days gone by. The quantities even alarmed those who are accustomed to deal with the singular power of resistance to medicine, which is often a characteristic of insanity, and who are somewhat sceptical as to the boasted influence of hypnotics. The course was, in fact, interrupted from fears that, although no visible effects followed the administration of the dose, it might act detrimentally, although insidiously, upon the nervous structure, as it would certainly upon the organs of assimilation. The patients were directed to take what was ordered in the morning, as it is always difficult to ascertain whether, or how long, or how soundly a lunatic has slept during the night, as the repeated visits of the night-watch, by which this could be done, disturb the patient and dispel the inclination to slumber, and effectually neutralize whatever sedative property the medicine may possess. It was further necessary to watch for other effects, and to detect any drowsiness, or lethargy, or sickness, or increased tranquillity, which might exist, and which might fairly be attributed to the narcotic. This plan put the property to a severe test, as the light, noise, society and occupation among which the subject of experiment must unavoidably be placed, act in direct opposition to the tendency expected to be induced, and with great energy in temperaments so vivacious and inflammable as generally accompany insanity. There are likewise grounds for supposing that the habit of taking rest at particular hours, the periodicity of the system, contribute much in insuring the efficacy of opiates administered in the evening, as well as the contemporary exhaustion from exercise, the darkness, silence, and solitude. But after making all necessary and reasonable allowance and deduction for these antagonist circumstances, it has occasioned surprise that, whatever the dose given, sleep has scarcely ever followed. Other effects, and these very marked, have been traced; but although triple, quadruple, in some cases six times, the amount of the ordinary dose, neither drowsiness nor sleep have been observed. But the facts that patients who were active and lively, presented dilatation of the pupil, could not read print of an ordinary size, heard dully and imperfectly, and appeared to have neither taste nor smell, seem to indicate that the narcotics used have a special and, it may be, unobserved effect upon the nervous system, apart from, and altogether independent of the production of sleep. Here was the system saturated with henbane, opium, pervigilium persisting, while there was proof, that a powerful impression had been produced. Further, the resistance to the influence of narcotics does not seem necessarily to depend upon the presence of that excitement, or irritation, or orgasm of the nervous system, causing, or coincident with furious mania; for in many of the cases tried, beyond the existence of one delusion, that system might be considered in a natural and healthy state.

The Dreams of the Insane.

We are not content with this investigation into all the minor habits and characteristics of the insane inmates; but where the patient does sleep, we follow him into his secret thoughts, into his very dreams. A record has been regularly kept of all remarkable dreams, phantasies, and visions, which have made so deep an impression as to influence the conduct of the individual, which have excited some powerful emotion at the time, or have been afterwards communicated. Latterly, certain patients have been selected for observation who are of marked character, whose habitual trains of thought are well known, and who spontaneously or willingly describe their feelings; their confidence is sought and secured, and the disclosures of every night are carefully preserved. This scheme has been adopted for the purpose of determining how far the night-dream corresponded with the day delusion; whether the events of the day exercised a similar power over the insane as they are believed to do over the sane, and to what extent the mind is rational and responsible during sleep, somnambulism, and those states between sleeping and waking. The enquiry was new, and has led to a collection of most interesting and extraordinary information as to the laws of association during sleep, which cannot be discussed here. It has established, so far as it goes, the identity of the dream with the delusion, showing that the current of morbid thought flows on uninterruptedly through the agitation and the vivid impressions of the day, and the quiet and repose of the night. In some instances, it appears that previous acts and feelings enter into, and colour and direct the dream. Thus, immediately after one of our festive meetings, the visions of one of the party is found to contain a picture of glittering and gorgeous dresses; and of another to display a dance performed by the wives of the Goths and Vandals in St. Paul's Cathedral. Much more frequently the dream, regarded as a reality, moulds and modifies the conceptions and delusions of the waking state. Thus one man is persuaded that he is destroyed by magnetism, silent combustion, and complains to the authorities that attempts are made upon his life; a second dreams that he is possessed of corn and wine, and oil, and distributes them next day; a third that he saw the books of the nation in the hands of the Lord Chancellor, and that a long black stroke was drawn across the national debt; and in the morning he announces that he is about to pay it. It is as difficult to convey any adequate notion of the extravagance, the grotesqueness, and sometimes the splendour of these reveries, as to follow the unsound mind through all its waywardness and wanderings; but it is consolatory to discover that the prevailing characteristics are pleasure and happiness. Of about seventy dreams detailed with great minuteness, four either owed their origin or their predominating features to fear; seventeen to the gratification of some sense, or the realization of some hope, wish, or ambition; four sprung from re-awakened affection or humanity; three were occupied with political triumphs; three were disturbed by anger; nine were tinged with the harmless superstitions of early days; five seemed to be the offspring of vanity; two of pride; seven of suspicion; nine of avarice or the desire of aggrandisement; three were busied with martial pomp and glory; and three with the more peaceful operations of the farm; and of the total number, whether pure creations of imagination or indistinct and distorted recollections of past events, not above fifteen could be regarded as giving pain or suffering, and as calling for sympathy.

THE LATE ACTIONS IN THE COURT OF COMMON PLEAS.

(To the Editor of the Medical Times.)

SIR,—Allow me, through the medium of your journal, to draw the attention of the members of the medical profession to the anomalous and unjustifiable verdicts recently returned in two actions tried in the Common Pleas. The plaintiff, in both instances, was a person of the name of Beale, residing at Stepney,—the defendants, medical men, practising in the neighbourhood. I gather many facts from the evidence adduced, and glean from that, that the plaintiff was not entitled to a verdict legally, "upon my honour." The action was for slander. The plaintiff, Beale, it appears, was originally a dissecting-room beadle at the Aldersgate School of Anatomy, under Mr. Tyrrell, at a salary at from 20s. to 30s. per week, in which capacity he distinguished himself by the neatness

with which he injected the bodies for the use of the students. Having a soul above buttons, he solicited Mr. Tyrrell's permission to attend his lectures, with the avowed object of following the profession at some future time—a request that was most graciously accorded by the surgeon of St. Thomas's. He was also at one time connected with the school at the London Hospital, in the same capacity as at the Aldersgate, or, as Mr. Merritt states, he was curator in the museum, the office bearing the additional titles of dissecting-room beadle, and assistant to the lecturer. Mr. Beale, for having been admitted to attend lectures by the professors, we suppose we must call him Mr. ——, now settled in practice at Stepney, and managed to pass the examination at the College of Surgeons, in July, 1841. In the month of December of the past year, he was called in to attend a Mrs. Neele, whose family he had attended for several years. She was laboring under inflammation of the bowels, caused, it is said, by a twisting of the gut, of which she died nine days after the attack commenced. A medical practitioner in the neighbourhood, named Self, conceiving the case had been mistreated, feeling indignant at the mode in which Mr. Beale had entered the profession, and perhaps annoyed by losing some of his patients, caused an inquest to be held, when a verdict of natural death was returned. The words charged as libellous were uttered by Mr. Self, to a patient of his, who had signified her intention of employing Mr. Beale, not because she was dissatisfied with Mr. Self, but because her friends had pressed her to send for Mr. Beale. The remark made was, that Mr. Beale was an unqualified practitioner, and liable to be prosecuted daily, while a further implication was made, that Mrs. Neele had been mistreated by him, and that he was only a dissecting-room porter. On this charge the jury returned a verdict, awarding £100 damages.

Now let us see how far the evidence sustains the verdict: and first, as to the statement, that Mr. Beale is an unqualified practitioner. At the trial of the action, his counsel put in the diploma of the College of Surgeons, and it was not denied that he was a member of that learned body, the diploma of which, he obtained several years after he had commenced practice. But the licence of the Worshipful Society of Apothecaries, according to the newspaper report, was not produced, and one of his own witnesses stated on oath, that he had been told, that an action was pending, which had been brought by the Company against Mr. Beale, for practising without their licence. It is fair to presume then, that the plaintiff had not passed the examination at the Hall, more especially as his advisers learned in the law would certainly have produced the certificate, if he had it, as it is the ONLY LEGAL PROOF a general practitioner can possess of his medical qualifications. It has been proved over and over again, that the diploma of the college will not qualify for practice: the general practitioner must have the certificate of the society, or have been in practice before August 12th, 1815, or he is an unqualified practitioner. If then, as I presume, Mr. Beale had not the license to practice from the Apothecaries' Company in his possession, Mr. Self was right in describing him as "an unqualified practitioner, liable to be prosecuted daily," and as such, Mr. Self was entitled to a verdict on that count. Indeed, as an unqualified practitioner, supposing my postulate correct, Mr. Beale was not entitled to bring an action at all, inasmuch as he had no *locus standi*. Being unqualified, he was not a medical practitioner, for, although a member of the College of Surgeons, yet as he practiced a branch of the profession for which he had not authority, he was decidedly out of the pale or protection of the law. The case, too, was a medical one, and required a medical man, not a mere surgeon, to treat. So far then the verdict was unjust and contrary to law—two positions not always consentaneous.

Another statement made by Mr. Self was, that Mr. Beale was a dissecting-room porter. This averment was fully borne out by the plaintiff's own witnesses, Messrs. Merritt and Tyrrell, gentlemen attached to the school where Mr. Beale had been engaged; indeed the latter gentleman tells us, to him was it owing that Beale was enabled to cast off his slough, and appear in Stepney as the practitioner of medicine and surgery. Thus far then, have the statements made by Mr. Self been fully borne out.

We come now to a more important charge, that of *mala praxis*—a statement requiring serious consideration. We shall take our evidence in this instance, also from the plaintiff's witnesses, and we must rely almost solely on the medical testimony. It appears, that Mrs. Neele labored under inflammation of the bowels, caused either by intussusception, or internal strangulation, for on that point the statements made are rather undecided, Mr. Farrer, a surgeon, who was called in by Mr. Beale to his assistance, distinctly stated, that if a greater number of leeches had been applied, the deceased would have had a better chance. If the patient had not got better, he, Mr. Farrer, would have bled her till some degree of faintness was produced. To relieve the inflammatory symptoms it appears Mr. Beale ordered only six leeches, and in this he was supported by the evidence tendered in court by Messrs. Tyrrell and Aston Key, who stated, that the application of 30 or 40 leeches would have endangered life. One of these gentlemen made the remark, that when the blood was once abstracted, it could not be replaced. Without stopping to comment on this absurd and *ad captandum* remark, that the blood could not be replaced, we would ask these surgeons if they would be content with applying six leeches to a case of abdominal inflammation, following an operation for lithotomy or hernia? Or, whether they deem that traumatic inflammation requires more energetic treatment than the idiopathic variety? We are well assured, that such milk-and-water practice, would not be adopted by them in their own practice, and if so they have no right to come forward in a court of law, and defend it in another. As Mr. Farren conscientiously remarked "if a greater number of leeches had been applied, the deceased would have had a better chance;" on this consideration then, we believe Mr. Self was entitled to a verdict, or at the very utmost, a farthing damages only was required.

In spite of all this, in the teeth of the facts that Mr. Beale had entered as it were surreptitiously into the profession, of which he was for a long time an utterly unqualified member, and is still legally so,—that he had been, as was most truly alleged, a dissecting-room porter, and that his own witnesses showed he had not only neglected his patient, but had not treated her with the vigor and decision which he should have used, the jury returned a verdict for the plaintiff, with £100 damages; thus affirming the fact, now first admitted, and constituting a most dangerous precedent, that a man legally unqualified to practice, may sustain an action for remarks against his professional character, and recover heavy damages. In fact, he has been declared by this jury to be entitled to all the privileges hitherto accorded to qualified and certificated member of the profession only.

There are other facts connected with this subject, to which, with your permission, I will advert on a future occasion.

I am, Sir,
Your obedient servant
F.

London, Dec 26, 1842.

[We have but one remark to append to this note. The uprise of Mr. Beale—nothing dishonourable being proved against him—is entirely to his credit. On the other points raised by our correspondent, our readers must be left to form their own opinions.—Ed.]

ON THE DECIDUA REFLEXA AND THE DECIDUAL CAVITY.

By R. LEE, M.D., F.R.S.

On the 10th of March, 1822, a young woman, who was in the second month of pregnancy, poisoned herself with oxalic acid. The uterus had acquired double the size which it usually exhibits in the unimpregnated state. It was five inches long, three and a half in the greatest lateral direction, and two inches in the antero posterior diameter. A longitudinal incision was carried down the middle of the posterior surface, crossed by a transverse one parallel to the entry of the fallopian tubes. The thickness of the parietes of the uterus, though greater than in the unimpregnated state, were not proportionate to the general increase in the dimensions of the organ; they were four lines at the fundus, and six lines at the cervix, gradually increasing towards that part: the chief difference was observable in the already enlarged size of the uterine venous sinuses. The deciduous membrane, which closely adhered to the inner surface of the uterus, was then laid open by two incisions parallel with the longitudinal and transverse incisions previously made in the parietes of the uterus. The cavity of the uterus being exposed, the ovum, about the size of a pullet's egg, came into view, and was observed to be situated towards the lower part of the uterus. It was lodged entirely in the cavity of the body of the uterus, and no part of it extended into the cervix. The part of the cavity to which it adhered was included beween two parallel lines, drawn, the one transversely across the uterus at the distance of half an inch below the entry of the fallopian tubes, the other at two inches distance from the os tincæ: consequently, the ovum was situated altogether below the entry of the fallopian tubes, and was unattached both at its upper and lower part, leaving a free space or canal between it and the os tincæ, corresponding to the shape of the elongated cervix and a much larger cavity, which was the decidual cavity, between the upper part of the ovum and the fundus uteri. Intervening between the superior and unattached surface of the ovum and fundus uteri was a broad cavity, measuring three inches in the lateral, and one and a half in the antero-posterior diameter, and which appeared at first only a few lines in depth, but on further inspection was ascertained to be nearly two inches in depth. The upper concave surface of the cavity formed by the decidua lining the fundus uteri, or uterine decidua, was irregular, and slightly reticulated. The inferior convex surface formed by the decidua covering the villi of the chorion, or decidua reflexa, was perfectly smooth, resembling somewhat the external serous surface of the uterus. On examining this with a magnifier, numerous small elliptical openings were seen in every part of the membrane. Into this large cavity, between the decidua reflexa and the decidua vera, the fallopian tubes opened by palpable orifices; that on the left side, by which the ovum had entered the uterus, being rather more than a line in a diameter; that in the right rather less. The cavity thus formed between the decidua lining the fundus uteri, and the decidua covering the upper and unattached portion of the ovum, or decidua reflexa, was filled with a red-coloured serous fluid. The ovum was next laid open by an incision through the chorion parallel with the longitudinal incision of the uterus, and the amnion enclosing the embryo was brought into view. The placenta was situated principally over the cervix and posterior part of the uterus, and the decidua, closely adhering to the placenta, passed across the upper part of the cervix uteri in the form of a thick reticular membrane. The decidua was then observed to extend upwards between the uterus and chorion, every where firmly connecting these together as high as the entrance of the fallopian tubes. From this point the deciduous membrane was spread out in two different directions—viz. over the upper convex and unattached surface of the ovum to form the uterine decidua. Between these membranes was the decidual cavity into which the fallopian tubes freely opened. If you examine this gravid uterus of two months, you will see the chorion and amnion enclosing the embryo, and umbilical cord,

and the placenta covered with its decidua, adhering all around to the upper part of the neck of the uterus. You will also see clearly that the decidua reflexa lies entirely above the villi of the chorion, on that side of the ovum where the placenta does not exist, and the ovum is not attached to the uterus. In all the diagrams from Dr. Hunter, Wagner, and all other anatomists, which you have seen, the placenta has invariably been represented as adhering to the fundus uteri, and the decidua reflexa has been situated near the cervix, and appearing as it mechanically depressed or pushed down before the chorion or ovum. But in this preparation it is obvious that the decidua reflexa could not have been pushed down before the ovum, because it lies above or covers the ovum—the ovum lies between the decidua reflexa and the cervix uteri—and as the ovum enlarged, the decidua reflexa must have been forced upward to the fundus uteri, which was lined with the decidua vera, instead of downward to the cervix. The decidual cavity is, you observe at the fundus uteri, above the ovum, and both fallopian tubes open into this cavity by palpable orifices. Instead of being covered with the uterine decidua, this membrane passes into them, and they are left completely pervious, so that no membrane existed which the ovum could mechanically push before it. I am not aware of the existence of any other specimen of the gravid uterus at so early a period, in which the placenta is adherent to the neck of the uterus, and the decidua reflexa is placed above the villi of the chorion, or that part of the ovum which is not attached to the uterus; but it is impossible to doubt that in all cases of placental presentation in the early months, the decidua reflexa completely invests the villi of the chorion, and that the decidual cavity is situated at the fundus of the uterus. If the statements of the authors above alluded to, and the generally received opinions respecting the formation of the decidua reflexa were well founded, it would follow that in all cases the ovum would attach itself to the uterus by the placenta, either directly over the edges of the fallopian tubes, through which it had descended, or to its immediate vicinity and that the deciduous membrane would never be found interposed between the uterus and placenta as it invariably is. The facts which have now been adduced and will hereafter be stated demonstrate that the fallopian tubes are open in the early months of gestation, that the ovum may attach itself by the placenta to the fundus body, or cervix uteri, and that the deciduous membrane forms neither a shut sac nor inorganic layer, prior or subsequent to the arival of the ovum in the cavity of the uterus. These circumstances are also strictly in accordance with the fact, that when the ovum can first be perceived, it lies loosely embedded in the soft flocculent, albuminous matter which, at this period, coats the inner surface of the uterus, and that this pulpy semifluid matter becomes gradually converted into those delicate organised membranous layers by which the attachment of the ovum to the uterus is so firmly secured, and the most important function of the ovum performed during the whole period of pregnancy. The albuminous substance interposed between the uterus and chorion becomes the decidua uteri, or decidua vera, while the albuminous matter which envelopes the unattached hemisphere of the ovum becomes the decidua reflexa. To whatever part of the uterus the ovum adheres by the placenta, its relation to the deciduous membranes will be the same, the uterine decidua forming the connecting membrane between the ovum and uterus, and the decidua reflexa covering only that part of the chorion which hangs loose within the cavity of the uterus. Dr. William Hunter offered no explanation of the manner in which the decidua reflexa is formed, and Dr. Baillie, who completed his description of the gravid uterus and its contents, says, that the manner in which the decidua envelopes the ovum has never yet been observed, and therefore can only be a subject of conjecture. The most probable supposition is, that the ovum passes from the ovarium into the cavity of the uterus, while the coagulable lymph is pouring out by the arteries of the uterus, which is afterwards changed into decidua. "One can hardly imagine," he says, "that the ovum should make its way into a membrane which is already formed, and, though tender, yet capable of some degree of resistance.—*Med. Gaz.*

PENCILLINGS OF FOREIGN MEDICAL MEN.

(Prepared from German sources, for the 'Medical Times.')

DR. SAMUEL THOMAS VON SOEMMERING.—Honoured by the first men of his age, recognised as an anatomist and physiologist of the first rank, renowned as one of the most fertile authors of Germany, loved by every one who approached him—Soemmering deserves to be ranked amongst the greatest men of the present time. The day when he celebrated the fiftieth year of his doctorial dignity, was a festival day for the whole of Germany, proving that even our age is not ungrateful to real merit.

Soemmering, born 28th January, 1755, at Thorn, in Prussia, was the son of Dr. John Thomas, who lived at that place as a practitioner and city physician, and whom the young lad accompanied at an early age to *post mortem* examinations, and thence probably imbibed his ardent love for anatomy, which branch of science he soon seized with an earnest grasp, which did not relax until his death. Instructed at the College (Gymnasium) of his native town by superior teachers and professors, he acquired a very extensive range of knowledge, and became imbued with that real love of science, which is so splendidly exhibited in all his works. Thus prepared, he went to the University of Göttingen, where he enjoyed the instruction of Wriesberg and Baldinger, and also became one of the first pupils of Blumenbach, who then had just entered on his career as a junior professor, and was still destined (the Nestor of German Natural Philosophers) to outlive his young pupil. Here not only with great promise, but even with great honour he concluded his academic career. It was not very long before, that Camper had complained to Albin, that there did not exist an accurate description of the connexion between the brain and the nerves. Soemmering endeavoured to accomplish that, which two such great professors of anatomy had pronounced to be a desideratum, and with what skill he did it, his inaugural dissertation, which he defended on the 7th of April, 1778, at Gottingen, sufficiently proves. It is entitled—De basi encephali et originibus nervorum cranio egredentium. The fame of this work and its author soon spread over Europe, and when, subsequently, Vicq d'Azyr published his description and tables of the brain, he resolved to adorn his work with some of the figures of Soemmering, as it was impossible to find anything more perfect in their way. He early acquired that indispensable art for the anatomists, of figuring his discoveries truly and instructively to a high degree, and the three plates which accompany his work, are drawn by himself after nature.

Having obtained the academic laurels in a manner most honourable, he undertook a journey to England; attended at Edinburgh the anatomical courses of Alexander Thomas; when he also devoted much time to preparations, especially to the injection of the lymphatic veins. At London he especially followed the lectures of John and William Hunter. Having thus profited during two years by the lessons of men, the most conspicuous for their researches and original ideas, he returned by way of Holland to Germany; and obtained, in 1799, the professorship of anatomy at the Collegium Carolinum of Hesse Cassell. During his passing through Holland, he stayed at Franeeker with P. Camper, who received him like a father—gave him quarters in his own house—and left him the free use of his collections and drawings. It is easy to imagine, what beneficial influence on the young mind the confidential intercourse of a man, equally conspicuous as an anatomist as well as a statesman, must have produced. The days passed away so usefully and charmingly, that their recollection was never erased from the memory of Soemmering.

Although the position which he occupied at Cassel was by no means adequate to his great talent, it still afforded him the opportunity of being able to devote himself entirely to his favourite studies. This period of his life is to be considered as that where, with unrelaxed assiduity and great genius, he built up from all he had hitherto learned one great whole, and thus prepared all which he afterwards put into such masterly execution. On occasion of the installation of a new anatomical theatre, he drew public attention to the lymphatic vessels then entirely neglected.

In 1787, Soemmering was called to the newly-erected University of Mentz, and thus may be said to have stept on a stage worthy of him. Here he lived surrounded by men the most scientific; here his unceasing activity was acknowledged and honoured, and he found himself surrounded by disciples, who eagerly received his precepts, ready to propagate them over the world. This enviable position stimulated him to the publication of several important works. He enriched comparative anatomy by his treatise on the difference of the negro from the European, which he dedicated to his friend George Forster, the great traveller, with whom he had been intimate at Cassell. His next work was on the brain and the spinal chord, in which he described the situation of those mysterious organs with an accuracy then unrivalled. But the main work, towards which all the endeavours of Soemmering were now converging, was one comprising the whole body of anatomical science, which, moreover, combining anatomy and physiology into one common centre, should propound all the doctrines on the structure of the human body. In this work (Vom Baue des menschlichen Korpers), he divided the general axioms from the especial facts and data, and thus became the founder of general anatomy. He therein communicated many new views and discoveries in the different departments of the science. Thus in osteology he stated interesting facts on the difference of bones in different nations, sexes, and ages, dilated on the use of the absorbent vessels in the formation of bones, and added an important inquiry on the teeth. In his "angiology" we admire his classic description of the heart, and Soemmering was the first who stated that there are scarcely any nerves reaching into its substance. In the chapter on the circulation, he states the agencies, which, besides the impulse of the heart, move the blood onwards, and his description of the lymphatic vessels is first rate. But the ne plus ultra of an anatomic description, is that of the brain and nerves. Five years after these volumes had appeared, he published his work on the intestines, in which he dilated on the use of the lungs in the formation of uniform animal heat, explains the formation of sound in speech, and gave a masterly description of the peritoneum and all its appendages. During the time that Soemmering was pursuing these peaceful occupations, the French revolution broke out, threatening to disturb the quiet he had hitherto enjoyed.

But the benign power, who had previously brought him amongst a circle of loving friends, promised him also a solace in this momentous catastrophe. Our stern professor led, in the year 1792, to the hymeneal altar, Miss Margaretta Grunlius, the daughter of a rich merchant at Frankfort, a lady of mild temper, and most promising qualities of mind.

(To be concluded in our next.)

DRS. DICKSON AND FORBES.

(To the Editor of the 'Medical Times.')

SIR,—Will you do me the favour to allow me, through the medium of your pages, to administer a little wholesome castigation to Dr. John Forbes, of the *British and Foreign Medical Review* notoriety? In the present January number of that periodical, Dr. Forbes pretends to review the second edition of my "Fallacies of the Faculty." The first quotation he makes from my volume, in his *fifth* page, is a misquotation—the first quotation in his *second* page is a misquotation—at the bottom of his *third* page is the following false insinuation:—"Curved spine, which Stromeyer and a few other insignificant schoolmen have attributed to paralysis of certain sets of muscles, is also in the opinion of Dr. Dickson, a remittent affection." Certainly at the commencement,

it is a remittent affection, but not only do I distinctly state it to be of a paralytic nature, but I claim to myself the discovery of that fact, and if Dr. Forbes chooses to appeal to dates, I will prove to the world that Stromeyer and his other schoolmen have only followed in my wake.

As a specimen of the mis-quotations I have noticed in this review, take the following:—in the original the sentence stands thus—"Like every other remedial agent it (iodine) cuts two ways—atomically *attracting* or lessening volume and secretion in one case—atomically *repelling* or increasing both in another, according to the electric state of the individual body for which it may be prescribed." In the mis-quotation "anatomically" is substituted in *both* instances for "atomically!" Dr. Forbes asks if this be not stark staring nonsense. I answer certainly; but it is his nonsense, not mine. Perhaps he will ascribe these and the other mis-quotations to the printer's devil: five mis-quotations at least in a review of six pages! Such a course was worthy the plagiarist of Dr. Payne. Yet he, Dr. Forbes, has the impudence to tell his readers "We have done justice to his (Dr. Dickson's) doctrines, by giving them and the proofs in his own language!" He concludes his review by asking "has not Dr. Dickson made an ass of himself?" In return for which piece of politeness I ask you, Mr. Editor, if Dr. Forbes has not made a knave of himself? Dr. Forbes is a royal physician, so is Dr. Holland. Perhaps it is by way of revenge for my having defeated Dr. Holland's ingenious attempt to appropriate to himself my doctrines, that his friend and coadjutor, Dr. Forbes, now does his best, by an equally ingenious device, to stifle their truth. The world will doubtless cry "Arcades ambo!"

I remain, Sir,
Your most obed. servt.
J. Dickson.

Clarges Street, January 3. 1843.

ROUGH REPORTS FROM GUY'S.

Tumour.—Ann Hall, Æt. 20, was admitted into Guy's Hospital, under Mr. Aston Key, Nov. 29th, 1842. She is a strong, stout girl, dark hair, and ruddy complexion: her habits of life good, has lived in the country,—occasionally troubled with sick headache. When she was born, the tumour was about the size of a pea; since that time, it has become gradually larger, but did not increase in size *very* perceptibly till she had attained the age of 16: since which time it has been rapidly increasing. It is now the size of a large walnut, and occasionally obstructs the vision, by falling, &c. Has had leeches applied, but no other means tried. A tumour about the size of a large walnut, situate over the external angular process of the frontal bone, beneath the orbicularis muscle of the right side, extending inwards half across the superciliary ridge, and also somewhat outward on the temple. Encysted, soft and pappy, to the feel,—no pain upon pressure. It contained some fluid matter, which was of a *cheesy* character. The tumour was removed by an incision made two inches in length, from the middle of the eyebrow to the outer part of the tumour. The whole was then turned out from the adjacent parts with scarcely any bleeding. Cold water dressing for 3 hours; after that time a piece of lint, dipped in Tn. Benz. Co. was laid over the part, (in which there were two very fine sutures,) and warm water dressing.—Dec, 2d.: The outer part suppurating, poultice was applied.—Dec. 3d.: The sutures were removed, the whole having adhered, with the exception of a small point at the outer part, which was suppurating.—Dec. 9: The whole has united, and scarcely any mark left.

Revival after Freezing.—In the winter of 1828-9 in Iceland, Gaimard found that toads could be completely frozen, so that ice lay in small pieces between their muscles, their bodies became quite hard, stiff, and motionless, broke easily and without any effusion of blood, so that, in short, every trace of life disappeared, and yet in ten or twelve minutes they could be revived by immersing them in very slightly warmed water. If they were too quickly frozen they did not revive.

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SUMMARY.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c., &c.

(LECTURE IV., Delivered December 9, 1842.)

Gentlemen,—I have now to bring before you some remarks respecting *Hydrocephalus*, and then to go on to notice some convulsive diseases. I have often watched a case of hydrocephalus with the same kind of interest as I have watched the most delicate philosophical experiment; and so far is it from being true, that that which is physiological is not useful in actual practice, that I should say it is totally impossible to view a case of hydrocephalus, with the degree of interest which it ought always to excite, without being physiologists. You remember what I said in the former lecture; namely, that diseases of the head in children are to be divided into—those that are tuberculous in their character; those of the nature of the water-stroke, following scarlatina; and the hydrocephaloid diseases, as I ventured to denominate that state of things that comes on in cases of exhaustion, and which we may assimilate to hydrocephaloid diseases arising from disordered states of the intestines. With regard to inflammation of the bronchi and hydrocephalus, I believe that one is to be compared to acute disease, and the other to insidious disease, and they must be described together, because their symptoms are so similar, that there is scarcely any difference between them; it only being, with regard to the first, the suddenness with which the symptoms come on; and if I were to make a distinction between them, it would involve a great deal of repetition.

Now, with regard to the causes of inflammation in the head, in children. You remember, in the last lecture, I adverted particularly to a fall or a blow. Many a fall or a blow has happened to a child through the carelessness of its nurse, or any other cause, which are never made known to the friends or the parents, or to the medical practitioner. Well, but a blow is likely to induce a serious malady, and I believe it is almost invariably the case that there is violent vomiting, persistent vomiting; and I make this remark to call your attention once more to the important symptoms of vomiting. If you are called to attend a child, and the child is affected with vomiting, and you cannot subdue it by attention to the diet or the state of the bowels, you may suspect that there is inflammation, than which there cannot be a more important admonitory piece of advice.

Now with regard to the symptoms to be noticed in the case of an acute inflammation, or in the case of a slower disease; the tuberculous hydrocephalus. The very first symptom of all is a pain, which the individual cannot express by words; but there is an expression of pain in the countenances of children which, if you are watchful and observant of it, you may learn to read it in their countenances. The child, you perceive, becomes irritable, fretful, and is cross; and these are very important symptoms—for a child is never fretful without a reason: of course there may be many other causes of fretfulness, but very often fretfulness is the very first symptom of hydrocephalus. And why?—Because it is in children similar to the expression of pain of adults. There is another kind of language written on the countenance, in which it is impossible for an observer to be mistaken. The child is still disturbed, and the eye of the child you see is contracted, particularly if it be taken to the light: for in the first stage of hydrocephalus there is more or less of abhorrence of light; the child is also disturbed by noises, and there is an abhorrence of noise. Very often you can prove the sense of touch, by passing your finger along the skin. In the first stage of hydrocephalus, you have these symptoms, all arising from undue excitement of the brain. In the first stage of hydrocephalus, or inflammation within the head, you have this series of symptoms, all which arise from undue excitement in the centre of the cerebral system:—The child cannot sleep at night; it is in a state of half dosing during the day, and with this half dosing state—which is neither more nor less than a dislike to be disturbed—with these symptoms arising from undue excitement, there is another symptom. I have been hitherto speaking of those symptoms that relate to the cerebral system, but the next class are those that relate to the true spinal.

What are the symptoms relating to the true spinal system? I have already alluded to the subject of vomiting, but there are symptoms connected with the true spinal system whenever you have paroxysms of vomiting, which you may suppose to arise from some inflammatory or tuberculous disease going on, and you may always infer that there is tuberculous inflammation going on. There are other symptoms: for instance—we have the contracted pupil. I need hardly remind you of what you often see when a child is exposed suddenly to a glare of light. There is another symptom which you cannot have failed to observe, namely, *strabismus*. The child does not see what it is apparently looking at; the object may be drawn backwards and forwards, and in an opposite direction, and still there is the state of strabismus; and the symptom I have watched very often, is that arising from some affection of the pathetic trochlear's muscle of the eye, causing the rocking motion of the eye. All these are true spinal symptoms. I need hardly tell you, that the eye is an organ in which all the symptoms are true spinal symptoms. Any organ of the body may be affected in the same manner; for instance—nothing is so familiar as to see the toe drawn into the sole of the foot, and the foot entirely drawn back by the contraction of the gastrocnemii muscles. All these symptoms are connected with the true spinal system.

Then, in the first stage of hydrocephalus what have we? Undue excitement of the cerebral system, and undue excitement of the spinal system. By the bye, with regard to the symptom of vomiting, it is very often mentioned as one of the first symptoms of hydrocephalus. Now this statement is both true and false. In the first place it is true, because one of the first symptoms I have met with in hydrocephalus has been an attack of vomiting; but in other cases of hydrocephalus there have been other symptoms that have not been observed. Vomiting cannot fail to be observed. The child is restless and irritable from want of sleep; all this may pass unobserved, it is ascribed to the stomach and fretfulness. But it should be borne in mind that almost all these symptoms precede an attack of vomiting, because the excitement of the cerebral system precedes the excitement of the true spinal system. It may be said that the first stage of hydrocephalus is denoted by undue excitement of the cerebral system, and undue excitement of the true spinal system. The disease varies. Where the inflammation is more acute the disease is tuberculous affection within the cranium, and where it is an insidious and slowly formed disease there is a total change in the phenomena from over excitement to undue excitement—restlessness and wakefulness become stupor and coma; sometimes the symptoms are spasmodic, and very often there is paralysis.

What then are the symptoms which characterise the second stage of hydrocephalus? You have only to run over in your own mind the rule I have laid down, and you have then a sort of mnemonic, which, if you bear it in mind, will always enable you to go over every symptom, and consider what are the changes. For instance, the expression of pain; there is now a total vacancy of countenance, there was a deficiency of sleep, with a restlessness at night, and now there is coma or stupor, night and day. There was intolerance of light—now there is blindness; there was intolerance of hearing—now there is deafness. The child is in a state of undue excitement or inexcitability, and all the senses are benumbed. This state of coma obscures even other pains; for I have seen repeatedly in the countenance of an infant just such a contraction of the features as denotes the coming on of this state when all other pains have subsided, and when the child is in this state, pain is scarcely felt, and is never expressed in the natural way, so as to give the idea that there was any pain. There is an utter insensibility, or general state of the senses; stupor, or coma, and fretfulness all take place.

Besides these symptoms that may be said to be from undue excitement of the cerebral system, there are other symptoms connected with the true spinal system; for it is in this stage of the disease that you have, more than in any other, the phenomena connected with the true spinal system. Now the pupil of the eye is dilated. There are two stages of the gaping eye. In one stage, if you take a feather and pass it over the eye-lash it closes; in the second stage, it does not close. You see, then, that in the first part of the second stage, the eyelid may be still closed if you touch the eyelash; but, that in the first or third stage, the gaping eye is not closed when you touch the eyelash, the pupil being permanently dilated; but still, if you approach the light the pupil is contractile, and the eyelid will also close. But, when the eyelid no longer closes and you touch the eyelash, you will see that at that moment the pupil ceases to be contractile, if you bring the light near it: the eye still gapes. In regard to all the true spinal symptoms they all also remain. The strabismus is tenfold, and there is contraction of the hand.

One remark I have to make, and that is this:—In hydrocephalus you do not have paralysis, but in inflammation you have it very often, and the reason is this, that in inflammation you have suffusion into the substance of the brain, and the paralysis occurs opposite to the side affected, whereas in hydrocephalus you have only a dilated state of the ventricle pressing on the brain generally, and which does *not in* general produce paralysis, though it does produce spasmodic actions. You recollect a case of pressure on the medulla oblongata which produced convulsions, and there is a case related by Dr. Abercrombie in which it produced spasmodic action. There is a case I did not mention, a case that completes the category, and was seen by my friend, Mr. Evans, of Hampstead. The case was one in which the child was laid on its back, and the pressure

on the fontanelle invariably produced a state of spasmodic action. This is important to remember, because a child should never be laid in that position.

Paralysis arises from injury. In a case I have lately attended, with my friend Mr. Barton, the child was thrown down by a horse, and its head fell against the curbstone, and from that time there were the regular symptoms of inflammation of the brain, there was vomiting, and also paralysis on one side of the body. I concluded there was not mere inflammation, as hydrocephalus came on so rapidly, and the respirations were irregular, because there was paralysis. On examination being made after death there was found a considerable suffusion in the opposite hemisphere of the brain.

Then we have first the symptoms attached to the cerebral system, and to the true spinal system, these symptoms being over excitement; in the second state we have the symptoms of the cerebral system and the true spinal, there being over excitement. The last stage of all is that in which the patient may be said to be in the sinking state, and you observe here that not only the cerebral and the spinal systems, but the ganglionic system is in fault. How do I account for that? I will tell you what I have observed, and you will judge from the character of the observations. If the child could not close the bronchial tubes, there was a considerable quantity of matter diffused over a considerable part of the lungs; therefore the progress of absorption was not properly balanced, and as the secretions are under the influence of the ganglionic system, I therefore concluded that the ganglionic system was involved.

Another state takes place, a state arising from distension of the intestines. Why do I refer to the ganglionic system? Simply on this account: —the secretion is probably under the influence of that system, which guides or which influences the whole of the secretions; therefore when there is a superabundance of secretion, like that to which I have referred, I conclude it arises from the derangement of the ganglionic system. I give this reason as the most probable, and it is highly interesting to observe that, whereas in the first stage of inflammation two parts are involved, in the last stage, not only the cerebral and true spinal systems, but the ganglionic system is involved. With these views in our mind, it is impossible for us to watch a case of inflammation in the cranium, or hydrocephalus, without detecting the nature of the disease.

I must now say a few words respecting the morbid anatomy in the case of inflammation from a fall, or from a blow, or any other cause. In these cases you have the usual phenomena of inflammation; effusion into the membranes, in the cavities, or the surface of the brain, and at the base of the cranium. It is very likely that effusion will account for some of the phenomena, though they may be accounted for by pressure, or it may be from the [illegible] of the ventricles, and so, from the general [illegible] produced by the pressure on the base of the brain, however that may be, effusion is the common [illegible]. Sometimes the membranes are a little opaque, but in cases in which the cerebral system is [illegible], you have more or less of the [illegible] liquid effusion. I need hardly tell you that [illegible] in all acute cases of suffusion. [illegible] of suffusion in which there [illegible]. Suffusion accounts for this paralysis [illegible] serve constantly, that where suffusion affects the substance of the brain, it [illegible] part more than the other.

In a case of true hydrocephalus, these are the appearances:—in the first place, effusion of the ventricles, and I should say there was a larger quantity of fluid than in a case of inflammation, then effusion both on the surface and at the base of the brain; then there is another very interesting point, for if you look at the membranes very accurately, and especially at the base of the brain, you may see what was first pointed out by Dr. ——, formerly of Paris, and who is, I think, in Demerara now; I am not quite sure. He pointed out what he called granulations, which he repeatedly perceived most under the arachnoid membrane, just under the base of the brain. Whenever you find these spots on the arachnoid membrane, you may be almost sure, if you look accurately into the other organs of the body, you will find tuberculous hydrocephalus; and from the time Dr. —— found true tuberculous hydrocephalus, he never met with a single instance in which he did not find these spots in the lungs. This shows the nature of the affection, and leads us to modify our prognosis. If you are called to a second case in the same family, if the disease comes on in the same manner, you may be sure the case will terminate fatally, if it is like the first. If you look into the other organs, you will find tuberculous hydrocephalus in the mesenteric glands especially. I only mention this circumstance to show that the event confirms our ideas of the true character of hydrocephalus—tuberculous hydrocephalus.

A few words respecting the treatment: I am myself disposed to treat every case as if there were full inflammation. I need not tell you, that if I had a case to treat in which there had been inflammation, I should act very differently, because there would have arisen the tuberculous disease in the lungs and the system. In treating a case of hydrocephalus I would recommend the free use of cold water in the morning, living in the open air, general tonics, and pursuing altogether a mild plan, as the best preventative. When the symptoms come on, nothing can prevent them so much as to subdue the inflammatory action. If the inflammation, however, is insidious, I should, in the very first instant, have the patient upright, and produce an impression, once for all, on the system. I would open the jugular vein, then a vein in the arm, then cup or apply leeches, until I saw a little pallid state of the countenance. The reason for placing the patient in the upright state is, that you can measure the extent to which you can go in drawing blood. I believe children bear the loss of blood well once; I do not think they bear it a second time. I am always disappointed when a patient has been bled once, because I do not, in that case, pursue the energetic plan I have described to you; otherwise, I do not hesitate to adopt that measure. I think you do not go beyond that which is safe, and you do not fall short of that which is safe by adopting this measure. If the patient is robust and strong, you may take more blood, and if there is acute disease, or severe inflammation, you may take more blood. Without some guide of this kind it is mere guess-work. The question comes after taking the blood how much have you taken? In the first place you have taken the proper quantity of blood if you find the quantity taken confirms the diagnosis. If you find in a very few moments the patient turn pallid, you may be sure the case is not one of inflammation, or that it is of a character that will not bear the bleeding any farther. If you have taken a large quantity you may be sure the case is inflammation, and therefore requires the loss of blood. The next thing is to apply fomentation to the head; let the head be fomented, and then you may put the system under the influence of mercury as soon as possible. I believe immediately after blood-letting [illegible] decidedly. I do not know that anything further can be done, except that the child must be fed on a diet of barley water, or something of that sort, and the bowels kept free and open.

QUININE IN ASTHMA, by B. R. HOGAN, Esq., United States.—The author asserts that quinine, administered in doses of from two to eight grains, repeated in an hour, if relief does not follow, has cured every case of asthma in which he has tried it. He was induced to try it in asthma, in consequence of its known efficacy in all paroxysmal and congestive diseases. He also alleges that in the "forming stage" of croup, in the case of a child, two years old, a couple of grains of quinine, and a "snuff" plaster on the chest, warded off the attack.

PRACTICAL OBSERVATIONS ON THE NATURE, PECULIARITIES, AND TREATMENT, OF SOME OF THE MOST PREVALENT DISEASES, &c. CONNECTED WITH THE POPULATION OF NORTH CHESHIRE, AND SOUTH LANCASHIRE, EMPLOYED IN COTTON FACTORIES.

By Charles Clay, Member of the Royal College of Physicians, London, College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence and Medical Police, Manchester.

CHAPTER II. FROM THE COMPLETION OF THE SECOND, TO THE FOURTEENTH, OR FIFTEENTH YEAR.

From the second to the fifteenth year, is an important epoch in the life of a factory operative; as all who have the physical ability, are compelled to earn their own subsistence, even at that early period of life, when it must be admitted (*medically*) they are far from being properly fitted for such an employment, in a confined, and artificially heated atmosphere. Before the protection afforded by the Factories Regulation Act, children were forced into employment at much earlier ages than at present; even the protection now afforded, is neither sufficient, nor is it appreciated by the operatives, to the full extent of its worth; which is evident, from the single fact, that every means are tried by parents to deceive the inspectors, and force children into employment, before the ages specified by the act, by giving the most false and positive assurances as to age, &c. From the ninth to the thirteenth year, government protects children from more than eight hours employment, per diem; and from the thirteenth, to the eighteenth, they are protected from more than twelve hours labour, per diem. Beyond *that age*, legislative enactment does not interfere. Without entering into the consideration of the more equitable system of controlling the moving power, to avoid the deceptions practised on the plan of age of the individual, it must be evident that children from nine to thirteen years are but little fitted for such extraordinary exertions, and it is lamentable that such should be required of them, the consequences of which are but too apparent on the community in these localities. It became a matter of serious importance to regulate their being employed, by strictly testing the age; and as baptismal registers were not always to be had, and in many cases were procured, did not answer as a test of age, as many were months, and not a few, several years of age, before baptismal rites were performed, other means had to be resorted to, amongst which medical men were directed to examine, and give their opinion in reference to age, from the development of the constitutional powers, tested by general appearances. As I had been extensively engaged in putting the Factories Regulation Act into operation on its first application under the chief inspector, R. Rickards, Esq., I directed the attention of the inspectors, particularly, to the fact that the chief reliance as to age, should be placed on the progressive development of the Dentes Incisores and Caninæ, a circumstance, to which I had paid particular attention, and I had to tell in so many instances, that I could with ease tell to a very trifle, the age of the child, without parental evidence, and frequently so correctly as to astonish the parties interested. In consequence of the sudden death of Inspector Rickards, these suggestions were not followed up at the time, though it was the intention of that gentleman, had he lived a little longer so to do. Some time after this, the government directed Mr. Saunders to make inquiries into the matter, and report thereon: this was done without reference to myself, although I had been practically applying the test for some time, and it was evident from the report, the information collected by Inspector Rickards and myself had facilitated the inquiry considerably. The subject was again neglected for some time in consequence of a new suggestion of determining the age by the standard of height, by Leonard Horner, then chief inspector, who had been at an immensity of trouble in collecting facts for forming an average standard for certain ages. This apparently easy method however, soon proved very fallacious, inasmuch,

it very frequently happened, that the younger (and consequently weaker constitutioned) child in a family by reason of its height, was forced into a laborious employment, whilst an older child in the same family, of shorter stature, but much stronger constitutional powers, was refused employment, and obliged to remain at home in idleness, eating the hard earned bread of the younger child's procuring. The standard of height very soon became notorious, as a fallacy; and an order in council abolished it entirely, excepting only as a corroborative test to other evidence. The development of the teeth now assumed its proper place, and certainly is the best *simple* test, and when combined with other testimony affords a conclusion not easily contradicted; and certainly where deception is practised inteded to be, it is the best remedy at command; but such is the determination of the operative class, to deceive in regard to their children, that it will always be difficult to come to conclusions strictly true.

The appearance of children at the ages, from two to fifteen, in these districts is miserably bad: sallow in complexion, lean, even emaciated, inkneed, and of precocious intellect, all of which are symptomatic of constitutional debility. There is a marked contrast between these children, and those of the coal miners in the same locality; the latter displaying considerably more physical power, and it has often been remarked, when playing together, that the little miners are a match for double their number of factory children, in feats of strength. Much has been said and written on the precocity of factory children, and, to a certain extent, it must be admitted as correct; the very congregation of numbers, and the general mixture of adults and children, tends to that end; but when some authors insist on early menstruation as a natural consequence of factory employment it is, in my opinion, going too far. I think, with Mr. Roberton of Manchester, who read a paper before the British Association, at its last meeting in Manchester, that menstruation is more an affair of constitution than of climate or employment. I do not mean to deny but that there are very many instances of early menstruation in the factory children, as I have witnessed myself many such cases. I may mention one case of a three months abortion at the age of thirteen years and two months; and another who was a wife, and mother of a living child, when she was two months short of fourteen years of age: still this is by no means general; indeed, I think cases of long deferred menstruation are equally prevalent in this class of society. It can scarcely be otherwise when it is considered that although confined in an artificially heated atmosphere for a considerable portion of their time, in consequence of which they are thinly clothed (arising, perhaps, as much from poverty as otherwise), yet they are frequently, and without any additional protection, exposed at meal times to a generally cold and moist atmosphere without: comfortless homes, thin bedding, and unwholesome low priced indigestible food. One of the most formidable appearances at the age at present under consideration, is that of scrofula, not unfrequently combined with, and in many cases the forerunner of, consumption; indeed, there appears a strong connecting link between these diseases; and though consumption's greatest ravages are after this period of life, yet it is frequently seen in the early years of childhood, and its victims can frequently, if not in all cases, be traced to those who have previously been subject to attacks of scrofula. There are many other diseases very prevalent; the mere enumeration of some of the principal will convince the observer that their origin in the main, is caused by the constitutional debility so generally prevalent—such as Menorrhagia, Diarrhœa, Chorea, Prolapsus Ani, Vermes, Fevers, and Inflammatory Affections of the Bronchia, Substance of the Lungs, Pleura, and Abdominal Viscera. Some of the eruptive diseases are also very prevalent, such as the Porigo Favosa, Scald Head, Psora, since the introduction of gas into the manufactories. Opthalmia has been more prevalent, and from its repeated attacks, opacities of the Cornea are very common appearances at all ages, but most of them originate about this time of life. In the treatment of Chorea, the best success has always followed the exhibition of powerful tonics, such as the Solut, Arsenici, with bitter infusions, proving it to arise more from general debility than the irritation of worms, &c. Some cautions are requisite in practising the antiphlogistic treatment in Inflammatory diseases: fevers, &c., lest the depletion be carried too far and the patient lost by unconquerable debility, which often comes on so rapidly that the patient is gone before the practitioner has time to look about him. The frequency of Bronchitis, Scarlet Fever, Mumps, and similar diseases sufficiently tells the cold moist atmosphere of the neighbourhood to which they are more than usually susceptible, in consequence of the excessive perspiration carried on during the hours of employment, and their want of clothing when not employed. Diarrhœa is often followed by obstinate Prolapsus Ani; and in the autumn, cases of the fruit-cholera are very abundant, some of them very difficult of management, and not unfrequently attended by fatal results. Strabismus is also a common occurrence amongst this class of children, which may often be traced to the attacks of convulsions from teething or acidities in earlier infancy. Such is the brief sketch of some of the principal features of diseases, their causes, consequences, and treatment during this period of life. Children so situated require more legislative protection than they at present enjoy, but the great matter is to learn to take care of themselves, to avoid those practices which are inimical to their health and comfort, and adopt such as are really advantageous; but this, neither pursuasion, nor legislative enactments can accomplish, until their education is more cared for, when they will be enabled to see things in the light of common sense. In the next chapter I shall consider this subject in reference to that period of life, from the fifteenth to the twenty or twenty-first year, a short space of human life, but no less liable to disease, in some of its worst forms than the periods preceding.

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

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Gentlemen,—The next antiphlogistic remedy to be noticed is *mercury*. It was first introduced as an anti-inflammatory agent, by Dr. Hamilton. He gave it in doses of four grains, after venesection, in conjunction with a quarter of a grain of opium, also with tartar emetic and camphor. The preparation of mercury that he employed was calomel. It is generally desirable to clear out the alimentary passages by a large dose of calomel (five to ten grains) before giving it in smaller quantities with opium to affect the system. If these remedies were not productive of decided relief in twenty-four hours, Dr. Hamilton was accustomed to repeat the venesection. Calomel is now frequently administered much more freely than formerly, and especially in tropical climates. Doses of ten to forty grains are not very uncommon. The modus operandi of mercury has been much disputed, and is not at all satisfactorily understood. Dr. Farre supposed that it excited an erythematic inflammation in the system, differing from the inflammation previously determined, which is of the phlegmonous or adhesive character, having a tendency to produce effusions. He tried it first in a case of iritis, and found that absorption of the lymph thrown out was undoubtedly promoted. Mercury is often beneficial in causing the absorption of the callous margins of syphilitic sores. In other kinds of ulcers its administration is generally injurious.—Nevertheless, wounds will often heal during the presence of salivation. Mercury is especially useful in peritonitis, and in all cases where the buffy coat is most abundant. It increases greatly the lymphatic and intestinal secretions, and may be regarded as acting exclusively upon the capillary vessels. There is often a discharge of greenish matter from the intestines before salivation, and the inflammation becomes diminished. Dr. Armstrong imagined that the chief benefit arising in inflammation from calomel and opium, was chiefly, if not entirely, due to the latter ingredient, viz. the opium. In some cases there can be no question that the opium is essential, and acts a much more important part than merely preventing the removal of the mercury from the bowels. The proportion of opium should be augmented when the nervous irritation is found to be predominant over the vascular excitement; also in cases where inflammation has proceeded to results attended with severe pain, and where it is important to produce as much quietness as possible; thus in perforation of the pleura or peritoneum, large doses of opium may be advantageously administered. It is in cases where the blood is altered, and the tendency to fibrinous effusions becomes considerable, that a large quantity of mercury is especially indicated; hence it is peculiarly adapted to the *later* stages of inflammation, and is less suitable at the very commencement of the disease. At the onset we have already noticed that *antimony* is the most efficient remedy. When fever runs high, as it does frequently at the beginning of an inflammatory attack, it is with difficulty that mercury can be brought to act upon the system, and this fact shows clearly the impropriety and inutility of trusting to it, without the assistance of previous depletion. There is no evidence to prove that mercury has any *direct* sedative influence upon the heart—it may certainly produce a sedative effect indirectly, viz., by increasing the secretions from the alimentary canal. When a very speedy effect is desired upon the whole system, inunction must be employed as well as the internal administration. When the gums become affected, the local inflammation is generally relieved, although the accompanying *fever* may still continue without any important abatement. Another medicine that has been much extolled by some as an antiphlogistic remedy is *Digitalis*. This you will find an exceedingly *uncertain* agent, and one upon which not the slightest reliance can be placed. *Colchicum* has also been tried in inflammations and in those of a gouty or rheumatic character it has been productive of strikingly beneficial results. It increases the secretion of the liver and kidneys, and aids in the purification of the blood. The sedative effect of colchicum is rather uncertain. Neutral salines may be given with advantage in cases of inflammation. They seem to have a refrigerant influence, and may act as attenuants of the blood. Salines ought to diminish its spissitude considerably. Some of the Italian physicians treat pneumonia almost exclusively with the carbonate of potass: it is supposed to render the circulating fluid less viscid, and the general secretions more free. We regard these medicines as mere subsidiary *aids*, and should never think of trusting to any of them alone. A very important item in the treatment of inflammatian is the *Regimen*. It must be evident that all circumstances tending to cause excitement of the heart's action, must be most carefully avoided and removed. Hence, a quiet room should be chosen, and the horizontal posture in bed maintained. All noise must be as far as possible prevented, and only little light should be admitted, because the senses are so many inlets, through which excitement may be communicated to the brain, and by it may be converted to the heart. The temperature of the air and of the patient must be cautiously regarded. If much *heat* is allowed, an increase of the fever will be induced, because, as you know, the effect of heat is stimulation. On the

other hand, *cold* is exceedingly injurious by checking the external secretions, and causing serious internal congestions. It is clear, therefore, that a continuance of either extreme must be avoided, and a *moderate* temperature maintained. The old system of smothering up patients in blankets, and unventilated apartments for the cure of inflammations indiscriminately cannot be too strongly deprecated. From what I formerly stated to you about the arrest of the gastric secretion, during the existence of inflammatory action, you will at once see the great necessity for prohibiting the supply of solid food. There are two reasons for this prohibition, viz., that digestion cannot proceed, and, secondly, that if it could, the nourishment acquired would be decidedly hurtful by augmenting the inflammation. The only diet required, is just so much as will keep the stomach from inflaming, as it were, itself, and for this purpose *diluents* are by far the best.

We have now alluded to the principal agents that are of use in combatting inflammatory disease, viz., blood letting (general and local), antimony, opium, and mercury, all of which may be assisted by salines, diluents, and the anti-phlogistic *regimen*. We must proceed to make a few observations upon the treatment of the *results* of inflammation. It will be apparent at the outset that these are not to be removed by any one class of medicines. The first of these results that we considered was *effusion*. The remedies for this have been called *evacuants, sorbefacients*, and *discutients*. The first of these terms would apply to any measures by which a direct removal of the matters effused could be accomplished. The second term, sorbefacients, would seem to be only nominal, inasmuch as we do not know of any substances that act upon the absorbents simply. Discutients are stimulant applications for dispersing effusions, such as solutions of ammonia, vinegar, salt water, and the like. *Friction* with stimulating liniments, is also of much service in some cases. It acts by increasing the circulation through the veins, and should therefore always be performed in a direction towards the heart. After effusion has occurred, the inflammatory action becomes diminished, but may still remain in a low degree, so that blisters and other local applications may be required. The best and most effectual remedy for the removal of effusions, is, as we before noticed, *mercury*. It appears to have some specific influence upon the economy whereby the absorption of foreign matters is determined. The efficacy of mercury for this purpose is well seen in cases of iritis, in which lymph is poured out and resists all attempts made for its removal, until the system is brought under the specific influence of mercurial preparations. The beneficial operation of blood letting and antimony in the ulterior stages of inflammation, is not to be compared with that of mercury. When the chief result of inflammation is congestion, antimony may be as useful as mercury. Sometimes congestions are better treated by tonics than by either. The same may be said of fluxes after all inflammation has ceased. In fluxes of mucous membranes, turpentines and balsams are very efficacious—they appear to have a specific influence over these cases. Liquid effusions into sacs must be treated with blisters, also with iodide of potassium, and diuretics and purgatives. When there are slight remains of inflammations, iodine is very effectual. If after effusion has taken place, the inflammation becomes *chronic*, iodine and mercury must be given. Here also *counter-irritants* come in with great advantage. If the chronic inflammation is superficial, blisters are best. If the inflammation is deeper or more severe, the *suppurative* counter-irritants may be employed. Sometimes there is scarcely any effusion discoverable, but merely a relic of inflammatory action, and in such cases simple rubefacients are often very useful. All these remedies must be employed before disorganization has taken place, or organic disease supervened.

When *suppuration* is established it lowers the vital powers. If the vascular action is strong, inflammation may continue, especially if the pus is *pent up*, and cannot escape. In this case incisions may be made, and hot poultices applied: or else, if the pus cannot be removed, the system must be supported, especially if any symptoms of depression are present. When suppuration is limited, there may still remain enough slight inflammation to indicate the further employment of antiphlogistic measures. The symptoms that are produced by the diffusion of pus through the system, have already been enumerated on a former occasion, viz. hiccup, subsultus tendinum, cold sweats, and ere long, death. The best palliatives that can be given are, bark and ammonia, wine, camphor, opium. Where the system is weakened by the discharge of purulent fluid, generous diet and tonics must be freely administered.

Gangrene must be treated much in a similar manner. If it causes depression, the system must be *supported*. We must try to excite the parts to inflammation, so as to throw off the dead matters. Sometimes, however, gangrene is attended with an amount of inflammation that becomes dangerous, and the excitement of the system may even require considerable depletion. The pernicious influence of the gangrene must be obviated by antiseptics. In gangrene affecting the throat, for example, a gargle may be used, consisting of from iij to vj drachms, of the solution of chlorinated lime, and vj to viij ounces of water. The chloride of lime has been of service in gangrene of the lungs. *Nitro-muriatic* acid is still better. Creosote is also good. Various inhalations are useful where the throat is affected. Another result of inflammation is *ulceration*. This is more common in the alimentary canal than in other parts. Such ulcerations must not be treated merely anti-phlogistically, but we must endeavour to excite a new and healthy action in the affected parts. Mercury may be given as an alterative in small doses; also, nitrate of silver, acetate of lead, sulphate of copper, or sulphate of zinc, or astringent decoctions, as decoction of logwood. The same substances may be of use also in ulceration affecting the larynx, &c.

The treatment of *erysipelatous* inflammation varies with its peculiar character. Sometimes erysipelas assumes the typhoid form, and requires the employment of powerful stimulants. In other instances, again, it is decidedly *inflammatory*, and demands the most active depletion, together with antimony, salines, &c. As a general rule, erysipelas is inflammatory at the commencement of the attack, but requires the use of tonic remedies towards its termination. Velpeau states that erysipelas consists essentially of inflammation of the capillary *veins*. One of the dangers connected with it is its special tendency to affect the membranes of the *brain*.

Rheumatic inflammation generally requires pretty free blood letting, and also the exhibition of what may be termed *specific* medicines such as *colchicum*. The combination of calomel, antimony and opium is also productive of especial benefit.

The *diphtheritic* inflammation is characterised by the formation on a mucous surface of a pellicle of lymph, which often emits a fetid odour. It is usually of a low type, and is most successfully treated by stimulants and alteratives applied to the part. Mild mercurials and salines may also be given. Bark is frequently indicated.

With the treatment and nature of *syphilitic* inflammation and its results, we have nothing to do here.

The next subject for our brief consideration is *chronic inflammation*, which, by continuing in a low form for a length of time, as its name implies, is frequently followed by the most serious and uncontrollable consequences. It produces gradual alterations in the *nutritive* functions, and thus also alterations in the *structure* of organs. The vessels are excited and throw out too great a quantity of solid matter. Hence may arise hypertrophy, induration, stricture, dilation, ulceration, &c. The effects usually predominate in one elementary tissue more than in another, and the results in the different tissues present many varieties of alteration. Thus when a tube consisting of several tissues is inflamed, it generally happens that the most vascular constituent is the especial seat of the mischief; for example, in inflammation of the urethra, we find that the submucous membrane has undergone the process of thickening. There is a difference in the susceptibility of tissues to inflammation,—thus, serous tissue is very easily affected, whereas, fibrous tissue is much less liable to the inflammatory process. Both, however, become affected if the inflammation is *chronic*. The deposits arising from the inflammation may vary from simple lymph to complete bone. When the liver is inflamed, an albuminous matter is deposited of lower vitality than that which usually nourishes the organ; it becomes contracted, and as a consequence, the entire organ shrinks. The product encroaches upon the vessels of the organ, and, therefore, its proper function becomes impaired.

Chronic inflammation seems to accelerate the occurrence of ordinary changes. It makes cellular texture dense and fibrous—muscular structures become tendinous—fibrous tissues become cartilaginous, and the cartilaginous become ossified.

Parenchymatous tissues generally undergo induration—Sometimes they become softened. In serous cavities, chronic inflammation may keep up the effusion to which the acute gave rise—but with this difference, that the chronic action causes a *degradation* in the character of the effused matter.

LECTURE XXI.

GENTLEMEN,—We are now entering on that department, or division of our course, which treats of individual diseases, rendered special by their affecting individual organs, or rendered so by their constituting such a group that they are constantly occurring together, more or less, with a constant relation to each other. And these in a great measure arise out of the general doctrines of *pathology* applied to individual organs, or, as it is sometimes instanced, individual functions connected with various parts of the body, constituting individual and special diseases. The first subject we shall begin upon will be the organs of respiration—the respiratory organs from the nostrils to the diaphragm, and we shall afterwards go, by a very natural connection, to the organ of circulation.

Now, preliminary to the consideration of individual organs, we have two generalities to consider and to notice respecting each group,—certain other matters with respect to the constitution of the organs, their functions, the manner in which they may be deranged, and consequently to the manner in which we may get at a knowledge of their symptoms, as they may tend to death or to other results.

Now we already find with regard to general Diagnosis and Pathology, that signs may be either

general or particular. So it is with regard to the chest.

On the one hand, particular signs proceed from derangement of the physical constitution of the organs, appealing directly to the senses. There are other symptoms, again, connected with the vital properties of the different organs, and although they often appeal to our senses in an indirect way, it is through these vital parts.

We proceed to consider, in a general way, the manner in which both sets of these may become available in teaching us the diseases of the chest. The chief peculiarity with regard to the chest is the manner in which its machinery is constituted and conducted. The chest is a machine adapted for the ingress and egress of air, and it is one admirably adapted for that purpose. But that adaptation belongs rather more to physiology and anatomy than to the particular department before us, which is to consider how that mechanism if deranged may present signs of disease. It is obvious that before it can cause signs of disease, it must act in a manner which is palpable, visible, or in some way ostensible to the senses. It is not every physical change which takes place, that can become a source of physical signs. We first of all consider, then, how we can render the disease manifest. We must examine the chest and its properties, so far as we can by sight and touch.

Now the constitution of the chest presents a given symmetry, certain symmetrical proportions on one side corresponding with the other, and these symmetrical proportions are exhibited not only in the stationary condition—what may be called the *statical* symmetry of the chest, or when the chest is comparatively at rest, or in the intermediate state between rest and motion,—but likewise a symmetry in the motions of the chest, and in a correspondence between the motions of the two sides.

We consider the natural aspect, the form and the position of the chest, which may be called the statical examination of the chest by sight and touch. By inspecting it straight, so as to view the two corresponding sides, the two are seen to correspond exactly with each other; the one half is a representative of the other half and if from an examination of the front we go to the back, we should find a correspondence between the two sides, one half a representative of the other half, a perfect correspondence between back and front.

There is another mode by which symmetry may be seen, i. e., looking down the chest so that you may perceive a correspondence between the thickness of the one side and the thickness of the other. And so you may examine the chests of patients in a similar way by looking over the shoulder, directing the patient to lay his head down, you perceive at once a correspondence between the two sides. This is a rough but an extremely useful way to obtain knowledge on the symmetry of the chest. It requires a certain amount of practice and a correct eye, to be precise in this mode of examination, but it is remarkable how soon after a little practice, accuracy is obtained, independently altogether of mensuration.

Now I shall have an opportunity of bringing before you, by way of illustration, a living model, by which a few of the particulars may be illustrated. I mention, by way of precaution, in the first instance, that as symmetry is the great object, it is obvious that it is necessary to place the individual in a perfectly natural position, that the arms shall be in a corresponding position on both sides, and the body as erect as possible; if, in a sitting posture, taking care to preserve the erectness of the trunk. Sometimes patients are too weak to bear this; under these circumstances, the patient lying in bed, you may inspect the sides from above, and if the patient is lying down, it is important that you get into a position to see the symmetry of the two sides. You must sacrifice dignity to the circumstances of the case and the desire of doing the patient good, and get on the bed and look down; you must move yourselves to suit your sight. The great object is to discover the existence or non-existence of symmetry; therefore examine fairly. This symmetrical portion of two sides is very often extremely well seen from the foot of the bed.

Now, I have stated, that symmetry is the rule of the natural condition; there are, however, in the natural condition, certain small exceptions to symmetry, trifling, in some measure, but yet they ought to be noticed—not only because they are exceptions, but because they are likely to be exaggerated by disease. The exceptions are, that the right side is in a trifling degree larger than the left side; when we come to actual measurement, it becomes more particularly evident, but it is also sometimes obvious to the eye. It may be stated to be a general rule, that on examination the right side from the lower part measures from one-eighth to half an inch more than the left; this is stated by Leibig, and considered by him a general rule. Dr. Stokes, who pointed out this incident, considers that the greater use of the right side causes it; that the right side is the strong side, and one that requires greater use and development. It is a matter of doubt whether this fact is not an effect rather than a cause, but it is a matter we cannot enter into at present. Dr. Stokes states, that in one of the instances in which the patient used his left hand as much as the right one, the left side acquired the predominance. There is not, however, enough of evidence to prove, that enlarged left sides follow invariably the increased use of the left hands. Doctor Willan, a very laborious French physician, has made a great many researches in the comparative size of the chest, and its various inequalities, both natural and unnatural; and, amongst other things, he has found that a great extension of the muscles of the chest, instead of increasing the size of the chest, diminishes it. Those artizans who are engaged in active employment, requiring the use of their upper extremities more than the lower, (the arms particularly,) have, on the average, smaller chests than those whose occupation requires both extremities to be used equally. We have, indeed, always considered that this exercise and development of one side—the effect of a person using the right hand more than the left—would increase the size of the muscles; but we cannot see how it would increase the size of the chest itself, unless there is some other development to account for it. I have always taken another cause as the reason; and before I mention it, I will state that another slight deviation from symmetry is also observed in a great number of healthy cases. The number is not such as to erect it into a rule; but it may generally be found to be the case, that besides an unusual development of the lower part of the right side,—a predominant development of the right side,—there is a greater development at the upper part of the left side than the right; and to confirm this, I may state that Doctor Willan, who has made many careful observations on the same point, observes, that in very numerous instances where there is a trifling amount of disease,it must amount to a case of enlargement; and that a departure from the natural symmetry of the chest produced disease in the greater number of the instances he met with. Now this makes it entirely (instead of being connected with the muscular development or original confirmation) owing to a greater amount of pressure in a particular direction, by which amount of pressure certain parts were disposed to enlarge and other parts to contract. Now if we wish to find what those parts should be, I have no hesitation to refer you to the position of the liver in the lower parts of the chest. The chest is expanded, and the lungs obey that expansion; all sides of the chest and lungs move freely. The motions of respiration, inspiration, and expiration take place without any impediment; and expiration takes place with the same facility. But there is a greater amount of resistance in some parts than in others. Where there is such a heavy mass interfering, with the respiratory motions, it requires a greater power to move it than if less motion took place; consequently, you may conceive that where there is a certain degree of resistance in the region of the liver to the descent of the diaphragm, in consequence of the weight of the liver, there will be a greater tendency to increase the bulge or expansion of the walls of the chest in its immediate vicinity. This takes place in inspiration, but still more in expiration. In expiration, which is a mechanical act, arising from the elasticity of the organs, there is not only the elasticity of the outer organs, but the weight of the liver to contend with,—and that takes place, on an average, in a third of the whole period of an individual's life, in a horizontal position. This seems but a little, but it is something that is going on constantly in this part more than in any other part of the chest; and it is quite sufficient to have the effect of causing a greater predominance of development on the lower part of that side. With regard to the upper part of the left side is there any proof that mechanical action has there a similar effect? There is the stomach distended with wind, which is more or less yielding, nevertheless, we find that Dr. Willan mentions, as showing changes of the chest,—arising from the resistance given by the distended stomach,—children subject to dyspepsy and flatulatory disease. Here the heart rises up—a solid body—pretty high to the chest, and though it does not apply to the lower lobe of the lung, may it not act in a similar degree with respect to the upper portion? The heart and appendages, and the other portions connected with it, rise pretty high to the left side, and it seems that a particular amount of resistance given there may cause a predominance of the upper part of the left side over the right. The other view connected with the working of the chest is important, inasmuch as the observation may lead us to a correct appreciation of the causes of these different phenomena, and their prominent signs.

So far we have been considering the statical position of size in relation to the chest. The chest expands in a state of rest without relation to these motions. We now consider the motions of the chest as expanded by the rise and fall. Now the motions of the chest as to their size are symmetrical. They are symmetrical in all directions. Remember what the motions of the lungs are—where the motions of the chest begin. Although the chest is a moving machine, the chest itself is the organ of motion; we should consider the manner in which it moves, by considering the manner in which the lungs are calculated to expand best; and pathologically considered, in relation to size, we must consider that the lungs expand from their roots. From the roots, so called; these parts, from which bronchii subdivide, and from which the vesicular texture of the lungs expand like the roots of trees from a centre. We suppose the great bronchii go in, and subdivide in various manners through the whole expansion. Well, then, the expansion of the lungs is upwards, outwards, downwards, and inwards. The expansion is over the chest in every direction; and just so, of a similar kind ought the expansion of the chest to be. In making these observations, you will do well to use the sight and touch together, placing the patient immediately before you, and placing your fingers on the chest so that you are sure you are looking at two corresponding points; then desire the patient to take a deep breath, and watch it at various degrees, and then you will see the expansion taking place in a symmetrical manner. You will observe it rises not only upwards but outwards; and this is often to be observed by placing the other hand, so that not only do the fingers rise up and down a little, but the hand and fingers are lifted outwardly. This may be observed if the patient has his clothes on; you put your hands round the chest, and you will perceive at once an uniform and general expansion, which, in some instances, will supersede the necessity of further examination, and likewise there is an expansion of the sides. The ribs are observed to rise as well as to expand outwardly—you will then come to the lower part of the abdomen. It swells outwards by the pressure of the diaphragm and the abdominal viscera. In the back you may perceive not only a general expansion, but the individual motions of the scapulæ, which may be looked upon as a metre —a mark, or index, of the motions of the chest. You will observe the different motions of the chest and the different motion of each scapulæ from the spine.

Now we may, in different diseases, detect a difference in the expansion of the two sides—in the descent of the one scapulæ from the spine, to that of the other. The motions that arise take place in inspiration; and whilst we watch these motions (and, in expiration, the opposite condition takes

place), whilst we are watching the falling, we may sometimes have the limits of a motion into the lower part of the chest, and thus discover what are the boundaries of the chest. It may seem to be not a difficult thing to talk of the boundaries of the chest. The chest, inasmuch as it is composed of bone and abdomen, is hemmed in with muscles. But, you must observe, that the abdominal viscera are in the chest, and it is very important to distinguish where the particular point of the chest corresponds with abdominal spinals only, or thoracic and abdominal spinals.

Now I have mentioned that sight and touch assist us in this, that by observing the motions of respiration in the lower part of the chest, we perceive a difference in the motions of those above the diaphragm and those below the diaphragm, and for this reason—the intercostal muscles above the diaphragm are the seat of pressure from without as well as from within. When the chest is expanded, a tendency to a vacuum is found, and if the air does not penetrate with great freedom into the lungs, that vacuum takes some time to go from the trachea into the lungs; and so, if it does not take place with great freedom at each time the diaphragm descends, there will be little concavities, as is found on laborious respiration. In a healthy person, you observe the intercostal spaces above the diaphragm that correspond with the lungs in the cavity of the chest, are concave at each respiratory effort, whereas those intercostal spaces below the diaphragm,—I do not mean actually below the attachments of the diaphragm, but below that level on which the thoracic viscera rest—those that are so, instead of being concave at each inspiratory effort, project outwards, and in fact the whole chest seems to expand and project outwards independently of that; and when inspiration is contracted, as in croup or any other case of that kind, the depression of the intercostal muscles connected with the chest is increased, whereas the external swelling and projection of all those parts below the diaphragm, corresponding with the abdominal muscles, is increased. The projection is increased in the abdominal muscles, and the opposite states exist in the chest. Some of the effects arising from this are rather interesting. These always take place peculiarly in young subjects, and their continual operation causes distortion of a particular kind. Shaw has pointed out, lately, some remarkable cases connected with that projection called *pidgeon chest*, or *chicken breast*—distortion, which in children shows a remarkable projection—a flatness of the chest, and a flatness of the sternum, and he, taking the explanation as before pointed out with regard to the intercostal muscles, ascribes it to a similarity of pressure of the inspiratory effort connected with an imperfect transmission of air through the trachea. In the cases I have already mentioned, where the air does not enter with great freedom, there will be a defective expansion of the diaphragm; and one of the great causes, perhaps the chief cause of respiration, is the weight of the lungs, which will effect the descent of the diaphragm, when the air does not enter freely, while atmospherical pressure will be exerted on the parts of the diaphragm and the ribs. If the air does not enter freely, the walls of the chest are pressed in. This is what you see in *chicken-breasted* children: the lower part of the chest is narrowed, flattened, and depressed, the continued effect of which is to cause a projection of the sternum, and this is sometimes exhibited through the whole course of an individual's life.

The point before us now, more particularly, is the manner of tracing the limits of the chest. The pressure is all outwards, by the diaphragm pressing on the abdominal viscera, outwards and downwards, and causing a temporary depression of the intercostal spaces. This is an important sign to prove the existence of the limits of the chest, and likewise the opposition to the entry of air into the proper tubes. It is in connexion with this, arising out of this difference of pressure between the abdominal part of the chest, or, more properly speaking, the *pulmonary* part of the chest, that you may perceive the outline of the projection; now there is a double one constantly produced. In indicating the actual contact of the liver with the walls of the chest, it appears a little above, to correspond with the upper part of the diaphragm, and upper portion of the liver, arising from the outward pressure I before mentioned. This seems to be the chief cause of natural projection of the chest, on the lower part of the right side.

Another fact, important to notice, in connexion with these motions is, that the ear is differently affected by the motions of respiration. Full inspiration causes the ribs to rise and to recede from the heart and the lungs, and expand between them. In the act of respiration the lungs are fully expanded, which is a healthy condition of a well-developed chest. This does not apply to narrow chests, or in disease where there is an adhesion. On the other hand, in full respiration, the lungs rise upwards to the diaphragm, and expand the greater portion, and the heart comes in contact with the walls of the chest, as in the case of *heart affection;* where the agitation and beating of the heart is caused by the heart's connexion with the chest. It may be seen likewise in the amount of the lungs' expansion; the heart comes in contact with the fourth and fifth ribs, and a considerable portion of the sternum. Healthy respiration is both *diaphragmatic* and *costellary*, and is constituted by the descent of the diaphragm and the rising of the ribs; and all varieties arise from disease, in which one of these elements of respiration or the other is absent. Thus, for instance, diaphragmatic respiration—which takes place when something or other prevents the full motion of the ribs; when the ribs are prevented from moving freely, either by excessive pain, or by ossification of the cartilages; or by actual disease taking place in the lungs; then the respiration takes place interiorly and by descent of the diaphragm. In that case the breathing is diaphragmatic or abdominal; inasmuch as the motions are not seen, and the chest no longer rises upwards and outwards. There is a greater than usual ascent of the abdomen at each breath. Again, the opposite condition takes place in what is called thoracic, or costellary respiration, or high respiration. This takes place when the diaphragm is immoveable; the diaphragm does not partake of the least movement. This may be from various causes—as when it is the seat of intense pain, or by a voluntary act it is kept motionless, in cases of pleurisy, and in case of excessive pain of the abdomen; the motion downwards may cause pain by a contraction on the abdominal muscles. In these cases the chest is moved with great activity, and under these circumstances the supplementary muscles, and the various muscles connected with the upper part of the chest, are called into increased activity; the chest moves with a greater apparent effort, and the abdomen is comparatively quiet, or it moves, or appears to move inwards; this moving inwards arising from an attempt of the abdominal muscles to contract the motion of the diaphragm. As an example of diaphragmatic respiration, I may mention a remarkable one, in which disease affects the nerves and the muscles above the diaphragm,—in case of fracture or injury of the lower animal vertebra, or a portion of the spinal marrow below the origin of the phrenic nerve. The motion of the intercostal muscles may be suspended, and still respiration be carried on by the diaphragm supplied by the phrenic nerve, which has its action by its connexion with the nerves of the medulla oblongata.

We may mention these as cases of diseased respiration, which may be partial; the motions may be *costellary* on one side, and there may be diaphragmatic respiration on the other: it may affect one side only. Another variety of diseased respirations is where there is a partial difference, compared with the symmetry of the motions; when one side moves more than the other, the parts rising unequally. Some parts rise more than others. One part may be quite mobile; this may take place from various causes: it may take place from distortion of the chest, when the organs of the chest are distended. When the whole machinery of the chest is disordered, the motions are much more free on one side than the other. Here we can only expect a partial respiration from the immobility of the walls on one side. *Ossification* may produce the same effect, as in spinal distortions. What is more important to me is, where a partial respiration sometimes takes place from disease within the chest, or the lungs itself, or from effusions into the thorax. For example—suppose the upper lobe of the lungs to be consolidated by disease; instead of air suppose there is some solid matter—a *tubercle*—it is quite clear that the motions of that part could not be freely performed, and inasmuch as the motion of each external part represents the motion and expansion of the internal part—that motion would remain fixed; so that, comparing the motion of one with the motion of the other, you will perceive the disease, and presence of inflammatory consolidation or liquid effusion instead of air.

Sometimes there is something to deceive you in the examination of the chest. Sometimes you may perceive a difference in the motion between the two sides, and yet the side most diseased will appear to move most. This is a deception of sight. There will often be an increased effort to move the diseased side, and that increased effort will raise the shoulder and clavicle, so that if you place your hand on the ribs you will see the ribs remain fixed; and when you see a greater upward motion of the shoulder and the clavicle on that side, and the ribs remain fixed, it is a more certain proof that there is disease, than if the shoulder and clavicle were less. It is the ribs that are the representatives of the chest, and they are to be watched by the expansion of the muscles.

I have mentioned different diseases; besides consolidation, *tubercle* in the lungs, effusion into the *pleura*, or contracted adhesions, and obstructions of the bronchial tubes; and whenever the air cannot get into the chest to expand it, that portion must remain comparatively motionless. But there is another condition to be observed in this motion, suppose we observe that one part of the chest is more fixed than another. It is important to observe in what condition it is fixed; whether in a state of expansion, highly distended by a quantity of air; or whether fixed in a state of collapse, in case of an insufficiency. Both cases are representative of disease. For example: suppose liquid effusion to occupy the pleura instead of the lungs; this would not only displace the lungs with such force, that the sides will be distended, but the motion of the chest will be stopped—it will be quite still, as if in a state of over distension; or as if in a state of full respiration. On the other hand, as in the contraction that takes place after pleurisy, you observe the chest is fixed in a contracted state. This is not only obvious to the sight, but it may be determined by examination. Now this practice is the most accurate mode of detecting inequalities, but it is a troublesome thing. We must not mind trouble in investigating disease, and trying to get at an accurate calculation with regard to it. You will find it advantageous to practice your eye as much as convenient; it requires a greater exposure of the patient, but it must be done if required. The plan is to take an exact measurement of the corresponding parts: that may be done by a tape passed round the chest, making it meet at the side. This is the usual mode of measurement. If you suspect liquid effusion in the lower part of the chest you should take the upper portion of the ensiform cartilage, on which you may press your finger, and dividing the string, bring it tight on the thorax. The tape should be perfectly horizontal. The measurement by the tape consumes a great deal of time, but it is more convenient than the callipers. It may be used in the measurement of the vertical diameter of the chest. Take any given portion of the spinal process; pass the tape over the shoulder to any part of the central portion of the sternum, or the clavicle, and pass the string round on the opposite side, and then you will perceive a difference on that side, taking care to apply it tight on the parts. The direct diameter is taken more conveniently by the callipers, for in that case you do not omit the bony projections. The spinal processes and vertebra are the best points to proceed from. Measurement is not always a more accurate test than inspection; for sometimes there is a change of shape without any change of size; and in many instances—in cases of considerable distortion—it is obvious to the eye; there is a sort of

flatness in one part, and an enlargement of another part, so that actual size is not determined by shape. Then there is internal measurement, tried by Abernethy and others—by directing the patient to blow into a jar of water; but this is no index of capacity; it is not what quantity of air the patient can contain, but what the muscles have the power to do. A patient may blow a large quantity of air into a jar; or from want of strength, and not from want of capacity of the lungs, the patient may blow only a little. The same objection will apply to the attempt to measure the capacity of the lungs by inspiration.

CURABILITY OF CONSUMPTION.

(Continued from page 233.)

To the Editor of the 'MEDICAL TIMES.'

SIR,—The next antagonism to phthisis, in the order I have laid down for consideration, is:—

HYSTERIA.—Individuals in consumptive families labouring under this affection, are rarely susceptible of tuberculous deposits or manifestation. It has the remarkable effect, as may be frequently observed, of giving greater or less roundness and fulness to the chest, according to its degree of severity, and the length of time it may have lasted. Spasms of the membranous portion of the trachea is the main cause of the laborious and irregular breathing. The air, being forcibly drawn in, and retained, distends the air-cells; this, together with the spasmodic action of the diaphragm, reduces the convexity of that muscle, thus enlarging the capacity of the thorax, and the frequent occurrence of the paroxysms with the long establishment of the hysteric habit in the system, ultimately lead, by these means, to permanent enlargement of the lungs, and expansion of the walls of the chest, it being a well-known fact that the latter contract or expand in the same proportion as the lungs. Dr. Ramadge, in his work on Consumption, speaking of individuals who are little liable to phthisis, says, (page 81) "To these I may subjoin persons who are affected with diseases of the convulsive kind, such as hysteria and epilepsy, or, in truth, all in which a prolonged or forcible retention of the breath is frequently seen." In hysteria of any considerable standing, the neck is rounder and fuller than usual:—if I might so express it, hypertrophied—both in the muscles and the integuments. The sterno-cleido mastoid muscles, in some cases, become so large towards their insertion as to exert a lateral pressure on the trachea, near the sternum; thus offering a permanent mechanical impediment to freedom of respiration. Some months ago, Dr. Ramadge shewed me a well-marked case, illustrative of this peculiarity, at the Infirmary for diseases of the lungs. The patient had been admitted to the institution, a short time previous, for catarrhal dyspnœa, and exhibited an extraordinary development of the sterno-cleido mastoid muscles, evidently sufficient by their lateral pressure, to diminish the area of the trachea. This person had, antecedently, laboured under consumptive disease, as appeared from auscultation and the history of the case. The dyspnœa, no doubt superinduced by the pressure of the muscles on the front of the neck, had removed all the symptoms of the former complaint. In aggravated cases of epilepsy, patients rarely die of consumption, for the reasons just mentioned under "hysteria." Every convulsive disease acts, more or less, as a prophylactic. It need not be inferred that the existence of these, or any other morbid conditions is, *per se*, a desideratum; this is by no means the opinion of the school to which I belong. I simply profess to be, however imperfectly, Nature's historian; and my object is to direct attention to her movements, with a view to their judicious imitation, that we may accomplish, more frequently and safely, that which she attempts too often without success, or only partially achieves. In her well-intended, but sometimes ill-conducted efforts, she is prone to run, as I said before, from one extreme into another. I might enter into further details under the present head, but should, by so doing, only multiply illustration, and occupy space unnecessarily.

ASTHMA.—The several varieties of this affection act in the way already described: viz. by enlarging the air-cells, which they do more or less, frequently, according to the frequency and duration of the paroxysms. Even in those cases of pure asthma, where the intervals between the attacks happen to be long, leaving time for the lungs to return to their previous dimensions, a certain amount of protective effect is gained. Indeed, I have never known an instance of pure asthma succeeded by phthisis. This I should suppose, *à priori*, would be the case, inasmuch as the exercise and expansion of the lungs, though occurring with comparative unfrequency and of short duration, can scarcely fail to exert an influence sufficient to alter the scrofulous habit, and render the lungs unproductive of tuberculous deposit.

Asthma has the effect of taking away the perpendicularity of the windpipe. The *pomum adami* in males becomes exceedingly prominent, and, in both sexes the inferior part of the trachea is retracted sometimes to a remarkable extent. The inspection of the front of the neck will frequently enable us to form an opinion of the state of the lungs, and constitutes no mean addition to the number of our diagnostic signs, in certain forms of thoracic disease. I may here observe that in this affection also the principal seat of spasmodic contraction is in the membranous portion of the trachea, forming its posterior boundary.

An interesting case, illustrative of the antagonistic power of asthma to phthisis, occurred about three years ago in the infirmary for diseases of the chest. James Walford, a pipe maker, labouring under consumption, was admitted by Dr. Ramadge as an in-patient; he displayed, unequivocally, all its auscultative signs and constitutional symptoms. He had, moreover, ulceration of the pharynx, which, in spite of suitable local applications, extended itself downwards, till, on reaching a certain point, asthmatic convulsions of a most violent description took place. A stridulous, mucous ronchus was heard in the windpipe; the lungs became suddenly and enormously emphysematous, and the difficulty of breathing almost intolerable. The asthmatic condition lasted, with few intermissions, for some months, and disappeared only when the pharyngeal ulceration was healed. During this period, from the very commencement, no phthisical symptoms had shewn themselves. The nocturnal perspirations, &c. ceased altogether, and have not since returned. He has been seen by several medical gentlemen at the institution, which is always open to the profession, and among them were three highly intelligent American physicians.

I have seen in Dr. Ramadge's case book, another interesting case, which I beg to add. The patient, who had been previously under treatment at the Middlesex Hospital for phthisis, presented himself at the infirmary for relief from severe catarrhal asthma, which, it appeared, had for some time masked the consumptive symptoms. The regulated temperature of the atmosphere of the ward, together with the medical treatment, soon removed all mucous irritation, and, with it, the spasm. He was discharged cured, and remained free from asthma and phthisis for 17 years. During this period, however, he had had an attack of insanity, and, latterly, his habits became drunken and dissipated. Being refused admission at St. George's Hospital, as a hopeless case of phthisis, he again applied to Dr. Ramadge for advice, but it was too late; he died a few days afterwards.

Here was total absence of all asthmatic interference for a very long period, possibly, in a degree, owing to the attack of insanity, which has a tendency to supersede asthma. Had the asthmatic affection recurred at intervals, the return of the consumptive state might have been prevented. From the whole, I would draw the conclusion that asthma, once introduced into the system, being in some instances a curable disorder, does not necessarily imply that the individual so affected may not at some period, die of phthisis. When a cure of atshma takes place, the system is in *statu quo*, so far as liability to phthisis is concerned. In the case above related, it is probable that the man's intemperate and debauched habits had so far weakened his system as to bring on contraction of the chest, from want of power in the muscles of inspiration to elevate the ribs,—new tuberculous deposits took place, or old ones liquefied, or perhaps both,—a cavity formed, and the disease terminated in death. I should here subjoin that the asthmatic state in the first instance was of very short duration. I find after a complete cure of asthma, that the return of the phthisical disease is rare.

CATARRH, or Bronchitis, symptomatic or idiopathic, in almost all its phases and varieties, is attended with more or less bronchial intumescence. By catarrh, I understand irritation of the mucous membrane of the air passages, in any part of their extent. It is either latent or manifest, mild or severe. In its mild or latent form it may happen to be unaccompanied by either cough or expectoration, and can only be detected by the ear. The easy, soft, downy murmur of natural respiration, degenerates into a course heavy breathing, with prolongation of the expiratory act. Between this and its aggravated forms, there are various gradations in the scale, but the tumefaction of latent catarrh, if of any considerable duration, is sufficient to antagonize phthisis.

Perhaps there is no morbid affection more common in this climate than catarrh, particularly in cold and damp weather. It is symptomatically present in most chronic diseases of the heart and lungs; in all febrile affections, and in numerous cases of impaired constitution. When irritation of the trachea takes place, or spasm of its posterior membranous portion, it is propagated downwards by continuous sympathy. But for the intervention of this complaint, the mortality from consumption in Great Britain, already so considerable, would be far more than doubled. Dr. Ramadge is, I believe, the first who taught that it is a preservative against consumption. Laennec, with all his acumen and experience, with the proofs daily staring him in the face, never alighted on this simple and important discovery. He combated, along with Bayle and others, the doctrine of the old schools, that it was one of the causes of phthisis, but most unaccountably overlooked its preservative influence. He has recorded cases of chronic catarrhal persons who lived to an advanced age; he had an opportunity of examining many of them after death, and observing the traces of old tuberculous disease, either cured or rendered quiescent, and yet never even so much as suspected the inherency of any preservative power in catarrh, thus verifying the old adage, '*non omnia possumus omnes*.'

One of the circumstances which contributed to the erroneous supposition that catarrh is one of the causes of phthisis is that the two are often found coincident. We are, however, more liable to set down a case of phthisis for catarrh than the latter for the former. Dr. Ramadge has shewn me many examples of this mistake, and says they are very common. He is constantly in the habit of noticing them to the medical gentlemen who attend the Infirmary. Where there are small incipient cavities, separated by healthy pulmonary tissue, or small disseminated tubercles beginning to form yellow points, the ear may not be able to detect any positive evidence of the morbid phthisical action commencing in the lungs, aye, even that of a practised auscultator. The best guide we have in this unsatisfactory state of things, is the absence or presence of successive nocturnal or matutine perspirations, and this will enable us to discriminate in all cases, excepting a few complicated with affections of the heart. When present, the patient is decidedly consumptive. Inattention to this symptom too often leads to a false diagnosis, even with some high authorities; the patient is pronounced catarrhal only, his apprehensions are disarmed, and he rests for a time in the enjoyment of a fatal security. This important symptom is overlooked or undervalued, because the auscultatory signs are either absent or obscure. Auscultation, under such circumstances, is purely speculative. The perspirations, though, with many a discarded symptom, will, as I have said, in almost all cases, alone, enable us to decide correctly.

Dr. Ramadge informs me that he is frequently applied to for advice in such cases, when it is too late to redeem the error, and all that is left him is the melancholy task of pronouncing on the real

character of the disease, and when permitted verifying, by autopsy, the correctness of his prognosis. In the latter stages of phthisis, catarrh is always present, arising, probably, from extension of the inflammatory action in the substance of the lungs to the lining bronchial membrane, but it occurs too late to arrest the disease.

Assuming, as I do, that general debility is the great chief cause of tuberculous deposit, I may be asked why convalescents from fever do not necessarily become consumptive. The answer is furnished by the coexistence of catarrh, either latent or manifest, defeating contraction of the chest, and its consequent deposit of tubercles.

Acute or inflammatory catarrh, independently of the direct danger to which it exposes the system, sometimes brings on a rapid and simultaneous liquefaction of pre-existent tubercles; and, though its own course may be arrested, the patient may die of galloping consumption. Influenza frequently proves fatal in this way, when severe. Like mercury, it quickly matures all crude tuberculous deposit, and if these be large and extensively distributed through the pulmonary tissue, their general and speedy solution is too much for the powers of nature, and the patient sinks. If, however, the deposit be small and partial, and the inflammatory affection moderate, the elimination of the morbid matter is often followed by a cure, more or less complete and lasting, but generally entailing a catarrh. We have been visited within the last few years with this epidemic, in a severe form. Dr. Ramadge informs me he has seen many persons, a long time subsequent to an attack, having cavities too large to be healed up by the bronchial disease, but with the pulmonary tissue everywhere else in a tolerably healthy state, in consequence of its inordinate exercise from the presence of the entailed catarrh.

It is of importance, in the interrogation of a patient, to ascertain at what season his phthisical symptoms first appeared. The chronicity of the disease depends much on the fortunate accident of its occurring in the winter season.

DISCIPULUS.

(To be Continued.)

TO CORRESPONDENTS.

Mr. Blythman is thanked for his obliging communication. We gladly accept his appreciated *offer.*

The Gentleman, *who is a licentiate of the Hall, and a member of the College of Surgeons, is of course eligible to all the medical appointments of the Poor Law Commissioners.*

A Poor Practitioner.—*We could little more, we are afraid, than extend our pity to this Correspondent. He, like many others, has had his small resources made less by the fluctuating and aimless policy of the College of Surgeons. When a few more similar instances of mis-government (authenticated) come before us we shall be better prepared to deal with the question. The demand of twelve months previous hospital practice is to be compared to the "examination of gentlemen practically on their merits."*

An Old Subscriber, *being a licentiate of the College, and a member of the College of Surgeons, has, therefore, a right to supply his own medicines,* and charge for them as an apothecary. *If he acted as an apothecary before 1815, the 55 of G. III. c. 194, protects him, as the practice. There is, however no chance of interference by the Society.*

Our review of Faraday's "Manipulations" has produced us a communication, from which we extract the following:—"*Here is an idea, unfortunately too prevalent, that all manual operations are somewhat derogatory; that to comprehend the theory of a science is quite enough, and that all manipulation should be delegated to assistants or menials. Now chemistry, justly proud as she is of her attractions, refuses to dispense the pleasure of her acquaintance to all who are too proud or too idle to become manipulators themselves. "We frequently see able and to follow all manner of handicraft, from the ladylike delicacies of glass-blowing to the mending of broken sauce-bottles! We had much pleasure too in acquainting all who aim at being chemists that they* must *do the same. Without such a facility, natural or acquired, the most splendid powers of mind, the most brilliant suggestions of genius, will be ineffectual. Now Faraday's '*Manipulations' *is not the best, but the only book, in this* or any *language, capable of yielding the required information; its object is, as the author expresses himself, 'to facilitate to the young chemist the acquirement of manipulation, and in consequence his progress in the science itself. It does not attempt to inculcate the principles of science, but the practice; neither does it claim to teach* a habit of reasoning, but has solely in view the art of experimenting.' *One great fascination possessed by this volume is, that it strives to remove the old prejudice in favour of an expensively appointed laboratory. Air pumps are supplied by cupping glasses—drinking tumblers are applied to uses innumerable, and as for the inexpensive glass tubes, they, by the blowpipe's aid, are metamorphosed into tens of thousands of useful forms. When it is remembered that such advice emanates from one who has the command of perhaps the most profusely appointed laboratories in Europe, we need not doubt its sincerity.*"

Aquarius *reminds us that in recent clauses in Water Works Acts, the river Thames water is specially required to be effectually purified by means of filtration, and asks whether filtration* can *effectually purify it? We have no hesitation in answering in the negative. Animal matter may be, and with regard to the Thames is, held in such infinitesimal tenuity, that no amount of filtration can achieve the work of defecation. We must add to this opinion our settled belief, that even much that might be done by filtration, in the way of making the metropolitan supply at least decent and cleanly, is omitted through a shabby and very mischievous economy by many of our Water-Work Companies. The Acts, we think, provide against this, if spirited individuals would but see them enforced.*

A number of other Correspondents will be answered next week.

THE MEDICAL TIMES.

SATURDAY, JANUARY 14, 1843.

Bad motives may have good points.—REYNOLDS.

RESERVING to a future occasion, any remarks we may wish to make on the state of our medical brethren in Austria (as given last week), we proceed, now, to present our readers with

THE MEDICAL ORGANIZATION OF PRUSSIA.

There are three grades of medical men—first, Doctors of Medicine and Surgery—secondly, First-Class Surgeons—thirdly, Second-Class Surgeons.

The "*Doctors*," before entering as medical students, must prove their possession of a liberal education, extending to a knowledge of natural and metaphysical philosophy. The studies extend through four years, and must be made in one of the five Universities of Berlin, Konigsberg, Griefswalde, Halle, or Bonn. On producing certificates of regular attendance, they are admitted to two rigorous examinations, one of which is conducted in Latin. The courses of lectures, which are half-yearly, are considered expensive—about a pound being paid for those occurring four times a-week; two, for those occurring daily. The diploma of Doctor of Medicine and Surgery, however, when acquired, gives no right to practice, which is only obtained by a further years' attendance at an hospital, or on the practice of some distinguished practitioner—and by practical proof of capability, as evidenced in the treatment of (at least) two patients, in one of the public hospitals. This, which is called the State examination, and which costs nothing, is presided over by a Commission composed of the University Medical Professors, and of the principal medical men either of the hospital or of the city. The examination can take place only at Berlin, except in special cases of sickness. Thus admitted, the Doctor may practice in every part of Prussia.

The *First-Class Surgeon* is not required to have studied philosophy, but must have acquired a good preliminary education in one of the State schools. After three years study of medicine and surgery, which costs him nothing, he is admitted to an examination, which is not severe, and for which he pays about £10. He is then allowed to practice anywhere in the country, or in towns not having more than 5000 inhabitants.

The *Second-Class Surgeons* differ from the preceding, in studying for only two years—in paying a pound less for their examination, in which they are obliged to show their knowledge of Latin. They may practice anywhere,—but if in cities, they are placed under the control of the Doctors and First-Class Surgeons. In cities, also, they are forbidden operations, and the practice of medicine, except under superior orders; and their numbers are limited in a certain proportion to the population. They frequently keep shops, and unite the trade of barber with surgery. In the country, they are in no way interfered with.

MILITARY MEDICINE assumes great importance, as might have been expected, in Prussia. The army doctors must all pass, whatever their previous acquisitions in medicine, through the "Frederick-William-Institute"—in which they receive lodging, food, and instruction, gratis, with a small pecuniary allowance. The course of studies is similar to that of the Doctors before given, up to the point of receiving the diploma, which is paid for. The candidates are then placed, as dressers, in the great Civil Hospital of Berlin, where they successively give two months exclusive attention to the different divisions of surgery,—Midwifery, Medicine, Diseases of the Eye, &c. They are then nominated, as Surgeons, to a company or battalion—and, after three years, they are frequently permitted to return to Berlin, to pass the second examination (for practice), and either establish themselves as Civil Physicians, or aspire to the desiderated post of medical attendant to the Great Military Hospital, which is always accessible to one in nine. The latter appointment gives a right to the next vacancy as Regimental Surgeon. Military service extends, in *rule*, to eight years—but, in practice, the Army Surgeons are allowed to retire much earlier, and have

the fullest permission to establish themselves in civil practice in any part of the Empire.

Candor dat viribus alas.

The recent occurrence of a contested election for the Coronership of Gloucestershire, in which (from political, or rather PARTY, considerations) a medical candidate sustained a defeat—and the expected approach of another, for the county of Durham, in which one legal and two medical candidates are reciprocally opposed to each other—the two circumstances occurring on the heels of each other—have recently drawn considerable attention to the question of the rival claims of Medicine and Law to these judicial appointments.

Before considering this interesting and very proper subject of enquiry, it is right to state—that medical men, in advancing their claims, stand (as a body) with clean hands before the public. The experiment of Mr. Wakley's coronership, if it has proved nothing further in the way of *ex-tranco's* weal, has certainly established the previously-unsuspected fact, that medical men have, as a body, a strong pecuniary interest in the preservation of *legal* coroners. To the extent of the number of coroners in the kingdom there are, we admit, individuals in our ranks who have a pecuniary interest in *excluding* legal candidates,—but, with the exception of those units, the whole thirty thousand of us are bound over to oppose an aspiring brother, in as many guineas as we are likely to have attendances on fatal accidents and sudden deaths. In one word, the MEDICAL coroner can do without us—the LEGAL cannot. Now, if we cannot, as we would wish, deduce from this circumstance any *certain* inference that, by medical coroners, there will be a reduction in the county rates proportionate to the medical body's losses—(our model coroner having, unfortunately, recorded on the Middlesex ledger one rather startling instance to the contrary)—we may, at least, thence fairly claim for our judgment the high value conferred by disinterestedness, if, after maturely weighing the subject, we prefer to the office those of the two who will be to us the source of the less emolument.

The best possible coroner would, undoubtedly, be one who was at once perfect lawyer and perfect doctor,—one who, in the first capacity, would rank with a Follett —and, in the second, occupy equality with an Arnott: but superlative excellence of this double kind can only be expected in such a man as the Admirable Crichton; or that still more admirable character of our own day, who, invested in his cerebral development with all the omnipotence of a very fortunate vanity, is at once an efficient M.P., a *laborious* journalist, an ardent coroner, and indefatigable—invalid!

We pass, then, to the second-best coroner —who, to our minds, is he who knows enough of law to keep him out of constant collisions with its legitimate expounders, and save him from a morbid fear of the reporters, and is sufficiently well acquainted with medicine to know where medical testimony is required, and how to estimate its value.

These two classes of candidates, however, rarely come before us,—and the practical question is between the mere lawyer and the mere doctor. Examined by our test of public good, the conclusion is soon reached. Life is of more consequence than law—health than technicalities —the prevention of crime, than the avoidance of verbal contentions,—and, in something like that proportion, is a MEDICAL of more value than a LEGAL coroner. Which would the poisoner more fear? Under which of them would he be most deterred from crime? The external aspects of men dying by apoplexy, heart diseases, poison, and rupture of the viscera by certain kinds of external violence, present no distinctive characters to non-medical mem. Various as are those causes of the same fatal result, they stamp no abnormal, certainly no prominently dissimilar, physical effect on the external frame; indeed, so slight are the outward distinctive traces, that the most they would probably effect for the most practised medical man—the ablest physiognomist of death (so to speak)—would be to awaken suspicion, and urge him to those further investigations which would tell, with something like certitude, the agents that have been in action. The existence of a difficulty of this kind—and of no common occurrence either—is shadowed out, and not darkly, to us, by the numerous verdicts of "Died by the visitation of God"—under which coroners and juries are accustomed, every day, to shield their ignorance of the specific causes of death. The legal man may have a better notion of verbal or documentary evidence,—may better estimate its worth—but he is at sea on all that regards the best and strongest of all the evidence offered — that presented by the corpse. The perpetrators of murder seek no witnesses,—apart, therefore, from corroborating circumstances, the main witness will always be the deceased; and it requires no great perspicacity to see that, when a coroner cannot attain the requisite evidence for himself, nor know how or when to ask the assistance of one who can, the criminal finds no greater friend—and guilt no greater coverer—than the judge whose office it is to detect the one and punish the other.

Thus hastily glancing at the question, we may shortly state that our arguments resolve themselves simply into this:—the office of the coroner being as much medical as legal, if he can only master one-half of his duties, that half should be (if there be any difference) the more important division,—which being evidently that which enables the coroner to make his office most preventive and detective of crime—we mean the medical division—it follows that in the cause of public health, public morality, and individual safety, the medical *(cæteris paribus)* should be supported, in preference to the legal candidate.

EXTRACTS FROM FOREIGN JOURNALS.

Muller's Archives, No. IV. 1842.

This number contains several papers of interest. The first is:

On Parasitical Fungi, developed by the Mucous Membrane of Dead, and Living Human Bodies. By Adolph. Hannover.

The author of this paper offers the result of his observations on a great number of subjects, healthy and diseased. It would seem that certain disorders (of which typhus is one) result from, or at all events, are coincident with the growth of peculiar fungi on certain mucous membranes, particularly of the œsophagus and other portions of the alimentary canal. An abstract of the paper, which is very long and accompanied with tables, shall appear in a future number of the Medical Times.

Contributions to the Anatomy of the Actinia. By Prof. Erdl, of Munich.

On the Development of the Asteroida By M. Sers.

Some Results of Examinations relative to the Anatomy of the Araneida. By Dr E. Grube.

Observations upon the Swimming Bladder of Fishes, with reference to some New Genera By J. Muller. Read in the Berlin Academy of Science, June 16th and 23d, 1842.

The subject matter of this paper is arranged under three separate heads:

1. On cellular swimming bladders and lungs.
2. On a springlike apparatus for increasing and diminishing the density of the air in the swimming bladder in certain genera of siluroides, and a similar structure in other fishes.
3. On a family of soft finned fishes possessing ossula auditus in connexion with the swimming bladder, with remarks on the system of soft finned fishes.

First.—The first division of the subject is thus commenced: "The older accounts of organs which served the purposes of lungs, or the cellular swimming bladders of fishes, offered by Severinus, Brodbelt, Schoepf, Broussonet, and others had not been confirmed, but Cuvier discovered, in the *lepisosteus* and *amia*, a true cellular swimming bladder, similar to the lungs of a reptile. I have discovered a similar structure in some other fishes, besides the genus *erythrinus Gronov.*, where I announced its existence some time ago."

Muller details the particulars of his discovery, and purposes to make the presence or absence of this cellular, or lung-like structure in the swimming bladder, a character of specific difference in the genera *erythrinus, macrodon*, and *calophysus.* Finally, he concludes the first division of his paper with this remark: "As certain as the swimming bladder of fishes is no lung, it is no less certain that the development of a true lung in fishes cannot be denied as impossible."

Second.—"The greater number of fishes," says the writer, "are not in a condition to rarify the air within their swimming bladders. The muscles of the latter are intended for the purpose of the air's *compression.* Quite different is a structure discovered by me in certain genera of river fishes, where the states of compression and rarefaction are placed under the control of two active and opponent forces, centred within the fish itself, in such a manner that the compression is continually active, and originates in the elasticity of a spring, whilst the rarefaction depends on permanently acting vital muscular powers, the force of which this spring can suspend at will. When the compressing agency of the latter is not in opera-

tion, such fish swim at a great depth, corresponding with the specific gravity of their bodies, as determined by the compressed air in their swimming bladders; but they rise to the surface through the agency of muscles—a condition different to that of most fishes."

Then follows an anatomical description of the spring like apparatus.

Third.—With respect to the third division of the subject, Muller states, that *Weber* discovered a connexion between the organs of hearing and the swimming bladder, by the intervention of *ossa auditus* in the genera *cyprinus, cobitis,* and *silurus,* This peculiar structure, the author has discovered to exist in many other genera of true *cyprinoids,* as well as every genus of siluroids, provided with a swimming bladder. The connexion of the swimming bladder without hearing bones, directly with the labyrinth through the intervention of air canals, as in the genus *clupea,* Muller discovers to exist in many other genera under Cuvier's *clupeides:* also in the *engraulis* and *notopterus.*

On the Anatomy of the Sepiola. By Dr. W. Peters, assistant in the Anatomical Museum of Berlin.

This gentleman states that he was engaged during a long residence in the Mediterranean Sea, in examining the structure and habits of various molluscous animals;—particularly the class cephalopoda. His attention was especially directed to the *Sepiola,* or cuttle-fish tribe, with the view of settling some anatomical discrepancies as to the real form and constitution of their ink-sacs. He thus commences his paper

"Grant described the ink-sac of *Sepiola* as a great, almost quadrangular sac, consisting of three flaps, of which the two lateral ones are reniform, and the front one possesses a thick glandular white partition. Owen has, however, observed in his 'Rossia Palpebralis,' (*Sepia palpebralis Gervaise et Vanbeneden*), a construction of the ink-sac altogether different from that just described, inasmuch as it possesses all the simple form common to other cephalopoda."

Dr. Peters proceeds to say, that he discovered considerable dissimilarities of this structure in sepiola not otherwise distinguishable from each other. Some possessed one simple sac, just like all mollusca of this class; in others, there were seen two black—synchronously pulsating organs, one on either side of the intestinal canal. The contractions followed each other at about the interval of a second between them. Peters at first imagined those organs to be accessory hearts; but further investigation satisfied him that they were devoid of any connexion with blood vessels, but communicated merely with the central sac.

He proceeds to say, —"This very different structure of the organs in the sepiola, appeared a circumstance of sufficient importance to warrant the assumption that there was a distinction of species, if not of genera, notwithstanding all other similitudes."

Further investigations, however, induced him to alter this opinion, and the examination of many specimens, caught at various periods of the year, proved, almost incontrovertibly, that the varieties of structure already alluded to were merely temporary. He is unable to assign a cause for this, but finds it quite independent of differences of sex, or the various phases of development of the sexual organs.

Finally, he concludes by saying, "I must also leave it in doubt whether this change occurs yearly or not; although the former appears probable, from the circumstance that out of many of these individuals caught late in the summer and in autumn, there were at least as many without as with the lateral organs; whilst amongst almost fifty caught in the months of April and May there was found only one which possessed the simple vascular organ."

The description of Grant is presumed to have been the result of an alteration in the physical appearance of parts, occasioned by their immersion in spirit,—under similar circumstances, Dr. Peters remarks, he should have come to the same conclusion. Dr. Grant's specimen, it would appear, was caught early in the year, and his description is correct *so far as it concerns the dead animal macerated in spirit.* Professor Owen's specimen would seem to have been taken late in summer, or in the autumn at least; judging from the researches of Peters, his description refers to the form of ink organs in that season.

CASE OF INTUSSUSCEPTIO.

By J. N. ASHWOOD, Esq., North M Ron.

Oct. 27th I was requested to visit Miss V., æt. 22, of full habit: she was then on a visit to some friends in this place. I was informed she had been in great pain for some hours. I found her suffering from enteritis; she complained of excessive continual pain in the lower part of the abdomen, just above the pubis especially, but diffused over the whole abdomen, with great tenderness on being pressed, constant sickness and vomiting, bowels not constipated, urine natural in colour and quantity, pulse 120, the usual pulse of enteritic inflammation, she could lie with her lower extremities extended without inconvenience. I immediately bled her ad syncop., gave her a full dose of opium, and as soon as hot water could be made ready, placed her in a hot bath, where she continued till she fainted: when placed in bed, fomentations and light poultices of bran were applied to the abdomen, calomel and ext. coloc. omni bihor, until free evacuations from the bowels were procured, The pain and sickness were much ameliorated after the bath, and in a few hours she became quite free from the inflammatory symptoms; the pulse under 90, fuller, and soft; the bowels freely moved - no tenderness or soreness of the abdomen on pressure. The next morning, the 28th, I found her comfortable, but in the afternoon I was sent for, as the inflammation had returned with the same violence as on the preceding day; the symptoms were as before, and the same measures were had recourse to with the same success. The next morning I was again called very early, when I found the disease returned; bleeding, &c. were again employed and with effect as before, she became quite easy. The next day, 30th, she was free from all symptoms of inflammation, but suffered from violent spasmodic pains in the abdomen (about the srobiculus cordis, and above the pubis), shooting through to the loins, the pulse not quickened; but this was soon relieved by a liberal dose of tinct. opii. I left her at night free from pain, the bowels had been relieved several times. On my morning visit of the 31st, I was much distressed to find the inflammation had returned, with, if possible, greater effect than before; I immediately bled her to syncope, and a bath being quickly got ready she was placed in it. At this time, her father having wished their family medical attendant to be called in with me—Mr. Flexman, of South Molton—he had been sent for, and arrived whilst she was in the bath. I mentioned to him my suspicion of intussusception, not from any diagnostic symptom being present, for there was none, but from the obstinate renewal of the inflammation, after appearing quite extinguished. He concurred with me in the necessity of again bleeding, for the last, although copious, had produced no relief; she was bled in the bath to a considerable quantity, but syncope was not produced, yet she was in a fainting state; when taken out of the bath a blister was applied over the whole abdomen. The symptoms gradually gave way; she had no return of the inflammation, but the following day she suffered from violent spasmodic pain in the right iliac region, with some fulness, but no definable tumour, with tenderness on pressure, no tenderness of the abdomen generally; the pain was relieved by occasional opiates, &c., when violent, together with fomentations, poultices, &c., but not removed. She now began and continued gradually to improve, yet the pain continued occasionally to harass her. She took no medicine after the sixth; on the 12th, she was removed to her father's house, when I lost sight of her. About three weeks after, Mr. Flexman requested I would call at his house, to see a portion of bowel and mesentery, which she had voided per anum the day before, and which her mother had sent to Mr. Flexman for examination, and which he considered a part of the colon. I called and found it as he had described, it was a portion of the entire canal of that bowel, about six inches in length, with its corresponding portion of mesentery attached; at the extremity of the mesenteric portion was a large artery, full the size of a goose-quill, with its open mouth as smoothly divided as though cut through with a scalpel, the mucous membrane of the bowel was of a dark chocolate colour, but the peritoneal appeared normal, the ends of the bowel appeared as though separated by the ulcerative process. The patient is at this time doing as well as might be expected, the only inconvenience she suffers is a difficulty of raising herself erect, with a sense of tightness near the seat of the cœcum. Mr. Flexman saw her but once after she returned to her home, previous to her passing the separated bowel—she took no medicine.

It is quite evident this was a case of intussusception, inflammatory adhesion of the invaginated portion, and separation by ulceration —there are many such cases on record, one where nearly a yard of intestine was separated, but in every case of intussusception I have read or seen, there were present unequivocal diagnostic symptoms of this affection. In this case, there was not the slightest symptom which could be regarded as diagnostic, unless the obstinate and frequent return of the disease might be so considered; there was nothing like stercoraceous vomiting, not the slightest appearance or smell of fæcal matters in what was vomited, but solely the contents of the stomach with bile, and the bowels were easily kept free (at first by calom. and ext. coloc. c. and enemas), through the whole course of the disease, from its commencement until the separation of the bowel: and after the termination of the inflammation, without the aid of medicine, her mouth was slightly affected about the fifth day. Before concluding, permit me to ask your readers, was not this life saved by the determined treatment? She was bled five times, each bleeding averaged at *least* twenty ounces Would not bleeding in clear cases of intussusception carried as far as is consistent with the preservation of life, be the means of bringing the patient safe through?

MR. ROBERT STEVENS'S DISCOVERY OF THE TRUE FUNCTION OF THE SPLEEN, AND ETYMOLOGY OF THE WORDS "SPLEEN" AND "MILT."

(To the Editor of the 'Medical Times.')

SIR,—A few of your readers may have seen an announcement in the *Lancet* of December 3, 1842, to the effect that Mr. Robert Stevens, of Kennington has discovered the true function of the spleen. The announcement states that the "discovery" has been made by means of *microscopical* examinations of the organ in a *live mouse*, and that the details and results of the *experiments* are at present before the *Royal Society*. The *Lancet* says, "We are not acquainted with them minutely, but believe that the facts at which Mr. Stevens has arrived, may be comprehended by a very brief exposition," and which the *Lancet* then gives as follows:—

"The circulation in the spleen of a live mouse may be easily shown, for the organ in that animal is fissured, and often divided. The blood corpuscles undergo no detention in it, and there is no intervening nondescript parenchyma between the capillaries of the organ. The blood undergoes no change in the spleen. In a dog which has been opened alive the contrast in colour between the blood in the splenic vein and the superior mesenteric will be plainly seen. The organ takes its name from *splen*, *splendeo*, and its vulgar name "*milt*" from *miltus*, vermillion. It is only some time after death that the spleen acquires its deep blue tint. But Mr. Stevens it is said, has proved, by direct experiment, that the addition of the splenic blood is necessary in the portal circulation, or, in other words, that an addition of arterial blood is necessary in the portal circulation, for such the blood really is. Now, were the arterial blood added direct, we should have the unprecedented instance of an *arterio-venous anastomosis*, which is contrary to the laws of general anatomy. The spleen is simply the necessary interposition of capillaries, betwixt the splenic artery (which is the largest of the cœliac axis) and the venous portal circulation. Such is the theory of Mr. Stevens."

The preceding exposition is perfectly clear and intelligible. There can be no mistake as to what Mr. Stevens means. He says, in fact, that the *use* of the spleen is simply to divert arterial blood into the portal vein, and that the organ itself is only the necessary interposition of capillaries between the splenic artery and the splenic vein. In answer I shall begin by simply stating that my object is to prove first, that the use of the spleen is *not* to divert arterial blood into the portal vein, but to propel the portal blood through the portal plexuses and hepatic veins into the right auricle; secondly, that the spleen is not simply a mere interposition of *capillaries* between the splenic artery and splenic vein, which nature has placed there in order to avoid infringing one of her own laws, or to obviate the occurrence of a direct arterio-venous anastomosis between the splenic artery and vein; but that the spleen consists chiefly and essentially of *venous radicles*, and that it is to be regarded *not as an isolated organ, but as the roots of an important vein*, THE SPLENO-HEPATIC VEIN, under which term is comprised the *spleen*, the *splenic vein*, the *portal trunk*, and its *ramifications* in the liver, to their terminations in the capillaries of the liver, the portal plexuses; and that the whole of this vein (roots, trunk, and branches, and of which vein the spleen is, as I have just said, simply the roots) possesses in an eminent degree the property of vital contractility, and is for the sole purpose of receiving the portal blood, and propelling it through the liver into the heart. I shall also show that neither the left ventricle, nor any other agent but the spleno-hepatic vein is capable of propelling the portal blood.

The case on both sides being stated, and made, I trust, perfectly intelligible, I shall now attempt to prove that the use of the spleen is NOT *to direct arterial blood into the portal vein*. I shall not begin by denying Mr. Stevens' statement that the splenic blood is arterial blood. I admit that it is an imperfectly carbonised blood; and it would be a mere dispute about words to disagree as to whether the blood in the spleen and splenic vein is *venous* or *arterial*. Upon this point we nearly agree. Mr. Stevens says the blood undergoes no change in the spleen. I, eight months ago, said, "the blood undergoes no change in passing through the spleen than it does by passing through most other organs"—and, that "there is as good reason to suppose that the venous plexus of the corpora cavernosa penis is for the purpose of sanguification or secretion (that is, for effecting a change in the blood), as the venous plexus of the spleen:" and the arguments which I then advanced to prove that the spleen is not for the purpose of effecting any change upon the blood, I shall now adduce, in opposition, to Mr. Stevens' theory that the use of the spleen is to divert arterial blood into the portal vein. Mr. Stevens remarks, that the splenic artery is the largest division of the cœliac: it is so in man only. In the quadruped the gastric and hepatic arteries are much larger than the splenic: and even in man, before birth, the splenic artery is smaller than the hepatic; because the spleen is then small, owing to the placenta, which is simply a temporary spleen being the chief—I had almost said, the *sole* agent in the portal circulation.

In quadrupeds, the splenic artery is smaller than the gastric and hepatic arteries, because the spleen bears a much less proportion to those organs in them than in man. In man, when the liver weighs more than *three pounds* the average weight of the spleen is about *eight ounces*; but in a pig (an animal which like man is omniverous, and the digestive organs of which bear no small resemblance to those of man) when the liver weighs *three pounds*, the spleen will weigh only *four ounces*. In the sheep and ox the relative size of the spleen to the liver is still less. Now, as in man, the spleen is in proportion to the liver as *one* is to *six*, and in the pig as *one* to *twelve*; it follows (as the spleen of the former is twice as large as the spleen of the latter—the liver in each being of the same weight) that the splenic artery of the pig will be only half the size of the splenic artery in the man, because the size of the splenic artery is proportionate to the size of the spleen, or to the quantity of venous radicles of which the spleen is composed; and therefore, as the spleen and splenic artery of the pig are only half the size of the spleen and splenic artery of the man, *the portal blood of the pig will have only half as much splenic blood, or arterial blood, or imperfectly carbonised blood, supplied to it as the portal blood of the man*. Now I ask Mr. Stevens why the portal blood of the man *requires* twice as much splenic blood as the portal blood of the pig? or why the portal blood of the pig *requires* only half as much splenic blood as the portal blood of the man? It is quite plain that it *is* so. As the spleen of the pig is only half the size of the spleen of the man, the liver in both being equal, it is clear that the portal blood in the former can receive only half as much splenic blood as the portal blood of the latter. There must be a *reason*, and a good reason too, why in man the spleen as compared with the liver, is more than twice as large as the spleen of the quadruped is, as compared with the liver of the quadruped; and I ask Mr. Stevens to give us that *reason*, to tell us, in accordance with the principles on which he rests his theory, *Why it is so?*

If Mr. Stevens theory is the *true* theory (and the Lancet *announces* it as such, and of course the Lancet ought to *know*) THEN THE SPLEEN OUGHT TO BEAR THE SAME PROPORTION TO THE LIVER IN ALL ANIMALS; AND OUGHT NOT TO BE TWICE AS LARGE IN MAN AS IT IS IN QUADRUPEDS. *That* is the objection I oppose to Mr. Stevens' theory; and that single objection will overthrow every false hypothesis concerning the spleen: and unless Mr. Stevens can show (which he cannot,) that the fact from which the objection is drawn squares with the theory, and the theory with it, as though the theory were made to explain the fact, and the fact to support the theory,—the theory must fall; and fall it will, for it is directly opposed to the fact; and is supported, not by *truth*, which alone can substantiate a theory—but *friendship*.

Having then shown that Mr. Stevens' theory is at variance with an important fact, I shall, in the next place, show that his view of the structure of the spleen is erroneous. He says the spleen is "*an interposition of capillaries between the splenic artery and vein.*" Now nothing can be more obvious than that this statement is incorrect, or that the spleen does not consist of *capillaries*, or minute canals intervening between the terminations of arterial ramifications, and the radicles of veins. The spleen consists chiefly and essentially of *venous radicles*, which are highly distensible, and as I shall subsequently show contractile; but who ever heard of *capillaries* being remarkable for their distensibility? If the spleen consists merely of *capillaries*, how happens it that sometimes it is distended, and at others contracted? If it consists of *capillaries*, how comes it to bear so close a resemblance to the corpora cavernosa in "texture and phenomena?" Is the calibre of capillaries subject to much variation, and if not, how can the spleen, if composed merely or chiefly of *capillaries*, vary so much in its degree of distension, as it is known to do at different times?

But no *argument* ought to be needed to disprove Mr. Stevens statement. The most superficial and cursory examination of the *organ* is sufficient; at least in any animal of larger dimensions than a *mouse*. Mr. Stevens knew when he was framing his hypothesis, that it was necessary the structure of the spleen should accord with his explanation of its use. Unfortunately, however, it did not; and therefore he immediately set about trying to make the structure square with the hypothesis, because the hypothesis would not square with the structure. In short, nothing but the necessity of bolstering up a sick theory could have caused Mr Stevens to take a plexus of venous radicles for capillaries: unless, indeed, it so happens, that his microscope diminishes instead of magnifying the apparent size of objects upon which it is employed.

As my letter has grown to a considerable length already, I shall reserve for a future communication the arguments which show that nothing else than the spleno-hepatic vein can propel the portal blood through the liver. I will therefore conclude with the following extract from a letter which I recently received from a friend, and which shows Mr. Stevens etymological "discoveries" are about on a par with his physiological.

"Mr. Stevens derives the Greek word *splen*, from the Latin *splendeo*, to shine; and the English word *milt*, from the Greek *miltos*, red

lead. Mr. Stevens may have heard of a certain Greek author named Hippocrates; nay, stretching probability a little further, he may have read his writings—in a translation; and if so, he may, perhaps, recollect that Hippocrates makes frequent use of the word *splen.* Now let this etymologist take up Lemprière's Classical Dictionary, edited by Barker, and turn to the head 'Hippocrates.' There he will find that Hippocrates died B. C. 390; and if he further turn to the article 'Rome,' he may read thus:—'B. C. 388, was a period when no Grecian writer knew aught of Rome—even by report, as a city actually in existence, since only two years previous (B. C. 390) it had been burned by the Gauls, and it was not till more than a century afterwards that the Romans became known to the Sicilian Greeks by the capture of Tarentum.' *Thus* (according to Mr. Stevens) *the Greeks* B. C. 391, *were daily using a word derived from a language utterly unknown to them till more than a century afterwards!* With regard to *milt*, it is a word current among all the children of the old Goths—among the low Dutch, Danes, Swedes, Icelanders, &c., &c. It was a household word in the mouths of their forefathers; those old pagan savages who roamed over the forests and wilds of Europe. Did these fierce idolaters, who neither knew nor cared for any language but their own guttural jargon, pay a visit to civilized Greece in order to learn that *miltos* was Greek for red lead, and adopt the word accordingly? Really the supposition that the word *milt* is derived from the Greek *miltos* is utterly preposterous and unworthy of refutation."

I am, Sir,
Your obedient servant
JOHN JACKSON.

6, Stonefield-street, Islington.
Jan. 6, 1843.

[We are informed that Mr. Stevens modestly disclaims the etymological brilliancies for which Mr. Jackson gives him credit, and that they are the exclusive property of the erudite and very ingenious editor of the Lancet—whom to rob of such rare gems in the way of *classical* research would be little short of the one unpardonable sin. Verily the readers of the Lancet must be a meek and most enduring race. How we pant for better acquaintance with such christian-like smite-bearers!—ED.]

PENCILLINGS OF FOREIGN MEDICAL MEN.

(Prepared from German sources for the 'Medical Times.')

DR. SAMUEL THOMAS VON SOEMMERING.

(Concluded from page 219.)

After order had been established at Mentz, he returned thither, but soon resigned his office, and removed to Frankfort in the midst of his family. Here he completed his work on the structure of the human body, and his assertion that the substance of the heart is devoid of nerves, which he supported by numerous reasons, created a great sensation. Soon after, he published a work on the seat of the soul, which he sought for in the vaporous fluid of the cavities of the brain, the walls of which never approach each other, and contain the commencing and terminating points of the nerves, which are continually moistened by it, and are acting again reciprocally on the fluid of these cavities. Then followed his "Tabula sceleti feminini juncta descriptione;" his very instructive figures of the human embryo; a series of figures of the human ovum from the earliest period up to the third month, and then the figures of the basis encephali, unsurpassed either in accuracy or elegance by any other work hitherto published.—After some short interval followed the figures of the human eye, which were succeeded by those of the other senses, which, by their high finish, are considered as patterns in anatomical literature. But besides these splendid specimens of human anatomy and physiology, Soemmering began to pay great attention to comparative anatomy, and examined and determined many fossil remains of the primeval world.

Thus several years were spent entirely between the circle of his family and close attention to science, and if he allowed himself some relaxation, it consisted in travelling, in which he extended the sphere of his knowledge, and that of his scientific friends. A son and daughter were born to him, of whom the latter is now an esteemed physician and oculist at Frankfort.

When the late King of Bavaria intended to revive the Academy of Sciences at Munich, and to constitute it as one of the leading features of the state, his attention was directed to the great services which Soemmering might render this Institution, who was, therefore, named in 1805, one of its first members. About this time he made the acquaintance of Cuvier, having, amongst others, rectified the opinion of the great French naturalist about the pterodactylus, (an antediluvian animal), which Cuvier had ranged with the reptiles, but which Soemmering proved to belong to the genus of bats (vide "Memoirs of the Academy of Munich," 1810.) They never could agree on that point, but remained friends notwithstanding. Cuvier described and figured in his great work on fossil bones, several specimens which he had obtained from Soemmering, and presented him, in exchange, with many rare palæatherium and anaplotherium bones, which are now deposited in the Senkenberg Collection at Frankfort.

His principal works of that epoch were "on the liquids absorbed by the nerves, as well in their healthy as morbid states, 1811." "On the crocodylus priscus."—"On the antediluvial lacerta gigantea, 1817." "On the tissue of vessels of the sclerotica of the eye, 1818." "Remarks on the stomach of men.

The favourable circumstances in which Soemmering had always fortunately lived, continued up to an advanced period of his life, and on the 7th of April, 1828, he celebrated the fiftieth anniversary of his doctorial promotion, on which occasion a medal was coined, having on one side the image of the professor, on the other a figure of the basis encephali, by which he had become chiefly known. He lived two years afterwards in the proud consciousness of having so powerfully advanced science. But having during the severe winter of 1829, occupied himself with observing the spots in the disc of the sun, he fell at once into a state of debility, and expired gently on the 2d of March, 1830. His death was severely felt through Germany, and even through Europe. The Royal Academy mourned this event in an extraordinary sitting, when Professor Dollinger pronounced a panegyric, from which especially the present memoir has been compiled.

An especial trait, which pervades all Soemmering's works is an unlimited love of truth, and the merits of others found in him the most perfect acknowledgment. His science he esteemed high, but searching, as he did, merely after truth, he did not extol any branch of it above another, and kept aloof from any partial one-sided predilection. It was repugnant to him if another expatiated on the excellence or preference to be given to certain parts of the human body, as if the others were coarser, less significative, less skilfully constructed, less worthy of our admiration. "As I can take to myself," says he, in the preface to the fifth vol. of his great anatomy, "some knowledge of the different parts which constitute the human body, I must confess that the hand seems to me as finely formed, as systematically combined, as worthy of admiration as the eye. I start from the axiom, hand is all, eye is all, and I warn any one from opposite one-sided prejudice." It can not be doubted that this enlarged mode of viewing the human body is the only one worthy of the real philosopher. We have before mentioned Soemmering's fondness for astronomy, and his last observations of spots of the sun, which were arranged by Professor Thilo, and published by the Senkenberg Society at Frankfort. Thus Soemmering, whilst he viewed everything from an elevated point of view, succeeded in inscribing his name even among the "*Stars Eorum laude Ingenium, Astra relant mori.*"

MESMERISM.

(To the Editor of the 'Medical Times.')

SIR,—You did me the favor to insert some time since in your really valuable Journal a short account of an operation performed in Jamaica during the mesmeric trance, and on which a kind of doubt was cast by me; at least I concluded my communication with saying that I was content to take it only on the authority of the editor of the *Jamaica Despatch.* I am now happy to say that the truth of such an operation having been performed is vouched for by the editor of the *Jamaica Standard,* a gentleman with whom I had the honor to be acquainted when in Jamaica, and whose word I would as soon take as his bond. I inclose the paper with this; but to save you trouble, I will copy the remark he appends to the insertion of the case: he says "we can assure the doctor, that all is right upon this head, and that many other experiments of *equal interest and importance* have since been made with precisely similar results."

You will perhaps allow me to add a mite to the vast accumulation of mesmeric facts which are every day forcing themselves upon the notice of the medical world. The first case is that of a lady who had a stiff neck. She complained very much of it, and I offered to mesmerize her. She consented, and I *succeeded in twenty-five minutes.* The second, was that of a man who had an extremely excruciating tooth-ache, and he was proceeding to a dentist to have it extracted, when he consulted me. I said I will remove it by mesmerism. He almost laughed at the idea; but, nothing daunted, I excited strong volition, and made the usual passes. In less than twenty minutes the tooth-ache was gone, and the poor fellow was actually about to run away, thinking that I possessed the power of an evil spirit! I quieted his apprehensions, and he has had no return of the pain, excepting a soreness.

I must add one other remark, because I wish for information on the subject—it is this:—Whenever I mesmerize—particularly my son, a boy of five years of age—I have, at the tips of my fingers, a feeling of clamminess, which is like *gluten.* Is this an invariable accompaniment? Mr. Brookes, who was in London last summer, told me it was, and that he always felt indisposed after mesmerizing. I can't say that I do; but in the case of the lady, I had shooting pains through my head—but they did not continue long. Dr. Elliotson assured me that he felt no inconvenience whatever from mesmerizing.

Your obedient Servant,
EDWARD BINNS, M.D.

Montague street, Portman Square,

AN INTERESTING CASE OF MIDWIFERY

By W. Thomas, Esq., Surgeon, Pembroke Dock.

Mrs. G., a young woman, pregnant with her first child, and near the period of her accouchment, stooping down for the purpose of relieving the bladder, "felt something," to use her own words, "suddenly crack across the lower part of the belly," and a large swelling of the right labium, was the immediate consequence. I was summoned on the moment to attend her, and found her lying on her back with her knees, of necessity, widely extended, to prevent the pain of pressure, and asserting "that the head of the child was actually in the world." On examination, however, I discovered that instead of a child's head, the swelling consisted of extravasated blood, enormously enlarging the right labium, as above mentioned, totally deranging all normal appearance of the external parts of generation; cold applications, with aperients and anodynes, were recommended. There being no reduction in the size of the tumour, a lancet was introduced, on the second day, and, by the aid of the finger, masses of coagula, mixed with detached cellular tissue, were, as it were, scooped out. Retention of urine occurred, and the bladder filling, passed out of the pelvis, forming a distinct

swelling, extending along the right iliac region, nearly as high as the umbilicus. The line of demarcation between the two viscera, viz., the bladder and the uterus, was accurately defined by a deep fissure, each viscus being of great size, and nearly parallel. Every effort to introduce the common female catheter proved ineffectual. A gum-elastic one being substituted, was, after considerable difficulty, introduced, and the bladder emptied of a quantity of urine, equal to four pints. When the instrument was withdrawn it had the twisted appearance of a corkscrew, and indicated an elongation of the urethra to an extent, far beyond the reach of the silver catheter. The operation had to be repeated only three or four times before labour came on, the same impediment existing on each occasion. Finding the pains for some time of little benefit, although severe as to suffering, I admininistered a dose of the ergot—an infusion of the unbruised grain—and before the period arrived for the second, it being my usual custom to give it in divided doses, the pains became expulsive, a living child was speedily delivered; the placenta quickly followed, and no bad symptom afterwards occurred. The artery ruptured on the occasion (the uterine, or some other branch of the internal iliac supplying the parts,) must, from the almost instantaneous extravasation, have been of considerable size, and probably but for this infiltration, instead of external escapement of the vital fluid, might have proved fatal. The bladder recovered its tone without difficulty, never requiring any further introduction of the catheter after the labour. My friend, Mr. Noot, Surgeon of the Royal Yatch stationed at this place, who kindly afforded me his valuable consultation and assistance, having, like myself, never met with a similar case, I have deemed it advisable to publish the particulars, which cannot fail to be interesting, and for which purpose I solicit a nook in the pages of your valuable periodical. The case is important to the obstetric physiologist in various particulars. For instance, the immense and immediate extent of the extravasation, totally destroying all normal appearances of the external organs of generation, the displacement and distention of the bladder, with the consequent elongation of the urethra, together with the efficacy of the ergot in producing expulsive efforts in the uterus.

EXTIRPATION OF OVARIAN TUMOURS.

(To the Editor of the 'Medical Times.')

SIR.—You will oblige me by allowing me space to reply to some observation of Dr. Clay in the report he has given of his very valuable cases of extirpation of diseased ovaria. It was never my intention to advise any simple operation for ovarian dropsy in cases of enlarged and diseased ovana as described by the doctor; but as my previous painful experience consisted of twenty fatal cases, occuring in my own and in the pr.ctice of others, I lost no time in making the members of the Provincial Medical Association acquainted with the facts of my first case by reading them a short paper on the subject at their next meeting, and which is published in the fifth volume of the Transactions: "Sherwood and Gilbert, London, and Deighton, Worcester." The subject of this case is now in good health, and has been pregnant three times since the operation, and given birth to three healthful children.

I have since witnessed a successful operation by Mr. King of Saxmundham, and another by my friend, Mr. Crisp, of Harleston, Norfolk. The lady, the subject of the last-mentioned case, had been 23 years suffering from the disease, and had been twice tapped. Three gallons of fluid were taken from the cyst, which was then removed without the slightest difficulty; indeed, I would always enlarge the wound, should difficulty occur at this period of the operation, rather than make use of violent traction, and, should the circumstances of the case require it, this simple operation might be converted into the formidable one recommended by Dr. Clay. This lady perfectly recovered, and has enjoyed several years of health since the operation. Mr. West, of Tonbridge has likewise published several successful cases: therefore I think Dr. Clay must be wrong in his estimate of the comparative success of the two operations.

I am, Sir,
Yours respectfully,
WILLIAM JEAFFRESON, Surgeon.

Framlingham, Nov. 7th, 1842.

MEDICAL NEWS.

PARIS ACADEMY OF SCIENCES, Dec. 26.—A paper was read on the experiments of M. Flourens on the bones of animals. This gentleman, acting upon the known fact, that if an animal be fed for a length of time upon food of a particular colour, that colour will be imparted to the bones, has made various experiments, with a view to ascertain the extent to which this absorption of colour can be carried, and how far it may serve to indicate the process of nature in the development of the osseous structure. After a long discussion, no other conclusion was come to, than that M. Flourens had, by his researches, rendered an important service to science.—An interesting paper from M. de Humboldt was then read. He informs the academy that the preparatory labours for cutting a canal across the isthmus of Panama are advancing rapidly. The commission appointed by the Government of New Grenada, for the construction of a canal to unite the two oceans, has terminated its examination of the localities, and has arrived at a result as fortunate as it was unexpected. The chain of the Cordilleras does not extend, as was supposed, across the isthmus, and, on the contrary, a valley very valuable to the operation has been discovered. The natural position of the waters is also favourable Three rivers, over which an easy control may be established, and which may be made partly navigable, would be connected with the canal. The excavations necessary would not extend to more than 12½ miles in length. The fall may be regulated by four double locks, 138 feet in length; and the total length of the canal will be 49 miles, with a width of 135 feet at the surface, and 55 feet at the base; the depth will be 20 feet The canal thus executed will be navigable by vessels of from 1,000 to 1,400 tons. According to the estimate of M. Morel, a French engineer, the total cost of this canal would be only 14,000,000 of francs, including the purchase of two steamers.—A report was made by M. Regnault upon some experiments by M. Poiseuille, respecting the laws which influence the flow of water through very small tubes, shewing that with a perfect equality in temperature, density, and pressure, the flow is in direct proportion with the length of the tubes. —An account was laid before the members, of the second journey of Messrs. d'Arnaud and Sabatier to the sources of the Nile, in 1841 and 1842, by the western branch, or White Nile.—A communication from M. Morisset, on the virtues of the decoction of oak bark in various diseases for which it has not hitherto been used, was next read. This gentleman states that this is a valuable remedy in cases of encysted dropsy, in œdematous affections of the limbs, and for the obliteration of the herniary sack in young persons.—M. Chuart, the inventor of a means of discovering the presence of any deleterious gas when mixed with common air, has addressed to the academy a paper on the accident which occurred lately in the mine of Terminy, near St. Etienne, for the purpose of showing that if his invention had been in use there, the presence of the deleterious gas which caused the explosion would have been ascertained in time for the use of the precautions by which the accident might have been avoided. It is known that an explosion from the admixture of carburetted hydrogen with atmospheric air can only take place when the former exists in a certain and known proportion. When the quantity has reached or exceeded this point, the contact of a light instantly causes an explosion. The instrument recently invented to shew the existence of danger, is exceedingly simple, ingenious, and effectual. Connected with a chemical solution is a kind of float, nicely graduated, and attached to a counterpoise. The solution is of such a nature that it undergoes a change when acted upon by the admixture of carburetted hydrogen, and when saturated to a certain point the flat changes its position, and, acting in its turn upon the counterpoise, a spring is let loose, and strikes upon a bell or drum, giving out a loud sound, and thus indicating the presence of danger.

Jan. 2.—M. Gasparin mentioned his discovery of a remedy for the disease in sheep called chronic pleurisy. A gentleman had a large flock of sheep, which, owing to the variations of temperature, were attacked by this disease. A great number had already died, and the remainder were regarded as incurable, when he was informed that a journeyman hatter had succeeded in curing the disease by means of arsenic in large doses. He tried the experiment on 20 sheep which were in a dying state. He administered to each 32 grammes (more than an ounce) of arsenic in powder, mixed with common salt. In a week two died, but the others were cured No ill consequences, he says, attended the administration of the arsenic. Some doubts seemed to be entertained by several members of the academy of the correctness of the facts cited by M. Gasparin, and, supposing them to be true, it was observed by others that, in the event of administering large doses of arsenic, it would be of the utmost importance to ascertain how long a period would elapse before the poison would be expelled from the system.—M. Elie de Beaumont laid before the academy a specimen of quartz rock containing diamonds. This was wanting in geological collections; for hitherto the diamond had not been found in its natural bed, but detached from it, and in alluvial soils. The researches of chemistry having led to the discovery that the diamond is only crystallised carbon, attempts upon attempts have been made to produce it artificially, but one of the greatest obstacles to success with chemists, was their ignorance as to the changes which the diamond undergoes from its first formation until it assumes the state in which it is found. This discovery of the gem in its natural bed, will perhaps enable chemists to add to their knowledge of the means by which the carbon of which it is composed becomes crystallised.—M. Bravais made a communication relative to barometrical and thermometrical changes in high latitudes in the absence of the sun, shewing that with a very feeble variation of the thermometer that of the barometer is considerable.—The report of a commission on the

candles called *bougie de l'etoile* was read. These candles are a composition of stearine made very hard, and reduced to a perfect whiteness. The wick requires no snuffing. An alarming paragraph, appearing in nearly all the papers, asserted that the quantity of arsenic contained in the candles was so great as to be seriously injurious to health, by inhaling an air impregnated with poison; but M. M. Danger and Flandin, who have analysed the *bougie de l'etoile*, report to the academy that they have not found in it the slightest trace of poison.

PERISCOPE OF THE WEEK.

On the Decussation of Fibres at the base of the Brain.—M. Foville points out, what all admit, that the extent of the decussation of fibres commonly demonstrated between the corpora pyramidalia is not sufficient to account for the completeness of the paralysis of one side of the body when the other side of the brain is impaired. "There is no proportion as to size, between their discussating fibres and their point of origin, the crura cerebri, or their termination, the anterior fasciculi of the spinal cord." He has succeeded, however, in demonstrating "a decussation at the commencement of the spinal cord, not through an extent of a few lines only, or by only a small number of filaments, but through the whole distance which separates the basis of the crura cerebri from the medulla spinalis properly so-called."—The anterior columns of the cord, when arrived at the medulla oblongata, separate from the middle line to give place to the corpora pyramidalia, and at the level of the tuber ascend and pass at right angles over the uppermost of its arcs. The posterior columns on the other hand pass outwards from the apex of the columns going to the crura cerebelli, and leave exposed the anterior fasciculi, which are then visible behind through the whole length of the floor of the fourth ventricle, and along the aquaeductus sylvii to the infundibulum.—The crura cerebri, for their part, form, from above downwards, a section of a cone, of which the fibres, instead of taking a straight direction, are turned spirally, and successively approach the median fissure into which they penetrate and plunge into the inner part of the anterior fasciculi of the medulla spinalis. The fibres from the right crus thus pass into the prolongation of the left anterior fasciculus, and *vice versa*. Along their course, the crura constantly giving off fibres which pass thus from one side to another, gradually grow thinner, and at their exit from the tuber they constitute only the base of the anterior pyramids. The same circumstances continuing they become finer and finer, till their very apices decussate at the boundary between the medulla spinalis and medulla oblongata. The transference of all the elements of the crura cerebri from one side to the other of the nervous axis is thus completed.—The mode of demonstrating this arrangement is to separate the two lateral portions of the nervous axis from the apex of the calamus to the infundibulum by separating the borders of the median grove. When this is done gently, each half may be seen to furnish an infinity of fibrous fasciculi of various size, which pass across the interlacing with each other.

Scarlatina.—Like rubeola and variola, scarlatina is a native of the East, first made known to us by the writers of the Saracenic school, and transmitted to Europe by the Crusaders. No recount, says Mr. E. Wilson, of a disease analogous to scarlet fever appears in the holy writings, whence we infer the non-existence of the disease in Syria and Egypt at the period which those writings describe, and its consequent origin at a posterior date. It is possible that the disease may have been prevalent in India previously to this time, and that its outbreak in Assyria may have resulted from the transporation of the infection by the winds. But, even if by this argument we shift our arena of inquiry to India, we must eventually arrive at the commonly received opinion, namely, the origin of the fever in a local and unknown cause. The infection of scarlatina is an acknowledged axiom, and the infecting distance is undoubtedly considerable, although not determined by observation. It is communicable by fomites of every description, hence the greatest caution is necessary to be employed in regard of articles of clothing which have been used by the infected person, and also of substances of different kinds which have remained for any time in the infected atmosphere of the sick-chamber. By want of caution in these particulars the spread of an infectious disease is greatly increased during the prevalence of an epidemy. Scarlet fever is sometimes conveyed from the chambers of the rich to the dwellings of the poor by such fomites; and, on the other hand, the clean linen of the laundress may be the means of transmitting the infectious poison to the persons of the sound. Scarlatina is infectious from the first moment of the existence of constitutional symptoms, for these are the workings of the poisonous ferment; and a conval scent is capable of communicating the disorder for at least three weeks after the decline of the eruption. Hence the necessity of secluding your patients, and preserving strictly that seclusion for a month after the close of the disorder, that is, if you wish to limit the propagation of the fever. In cities the body-clothes and bed-clothes of the patient should be immersed in cold water as soon as they are removed from the apartment, and afterwards fumigated in an empty room with chlorine; while, in the country, the clothes, after immersion in water, must be dried and thoroughly aired in the meadows, at a distance from habitations, or in such a situation as will enable the winds to convey the noxious poison away from the immediate seat of human residence. Willan has stated his belief that a nurse who had received the vapour of the lungs, the phlegm from the throat, or the discharge from the nostrils on her clothes or pocket handkerchief, is in a condition to infect a child whom she may afterwards attend or caress. Dr. Sims has remarked that the infection of scarlet fever has remained in the apartments of the house for several weeks after the family had recovered from the disease. And Dr. Robert Williams reports the statement of Dr. Cock, that he had traced the irruption of scarlet fever in St. Bartholomew, during the years 1829, 1830, to a direct importation of fomites: for a family who had suffered from the fever during their passage from America, landed at the island and communicated the disease to the persons who received them. Dr. Murray, in like manner, referring to the prevalence of an epidemy in Aberdeenshire, observes that he had seen several instances in which midwives conveyed the scarlet fever to the patients whom they attended.—The contagion of scarlatina has been illustrated by experiments made with a view to induce a milder form of disease than that which commonly prevails These experiments have been unsuccessful in their object, but have furnished proof of the transmissibility of the disease by the inoculation of the blood of the infected patient.

A New Method of Administering Quinine. Dr. Guastamacchia's method of avoiding the disgust which the bitterness of quinine always excites, is to dissolve eight grains of the sulphate in half an ounce of rectified spirit, and rub it, in two doses, with an interval of a quarter of an hour between them, along the spine. In intermittent fever this should be done at the beginning of the cold fit; and it very often prevented even a single recurrence of it.

The Relative Frequency of Tubercles in Various Organs.—The proportional frequency, says Dr. Engel, of Vienna, of the occurrence of tubercle in the lungs to that of tubercle in the cerebral membranes, the pleura, liver, and spleen is as 18 to 1; to that of tubercle in the brain and kidney as 18 to 2; and that of tubercle in the peritoneum and intestines as 18 to 3. This is the more remarkable, when compared with the relative frequency of cancer in the same organs. Cancer of the lungs occurs, in proportion to cancer of the liver, as 18 to 48; to cancer of the stomach, as 18 to 42; to cancer of the intestines and kidneys, as 18 to 12; and to cancer of the brain, spleen, peritoneum, and uterus, as 18 to 18.

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22	1 0 9	1 1 10	2 2 4	38	1 7 8	1 9 1	2 0 8	54	2 6 8	2 16 6	5 1 3
23	1 0 10	1 1 11	2 3 3	39	1 8 5	1 9 10	3 2 2	55	2 8 8	3 0 4	5 5 0
24	1 0 11	1 2 0	2 4 2	40	1 8 9	1 10 4	3 3 8	56	2 12 4	3 4 4	5 9 0
25	1 1 0	1 2 2	2 5 2	41	1 9 5	1 11 0	3 5 4	57	2 16 9	3 8 6	5 13 0
26	1 1 2	1 2 6	2 6 2	42	1 9 9	1 11 9	3 7 0	58	3 0 9	3 12 8	5 17 6
27	1 1 3	1 2 9	2 7 2	43	1 10 0	1 12 6	3 9 0	59	3 5 10	3 17 2	6 2 0
28	1 1 4	1 3 2	2 8 2	44	1 10 10	1 13 7	3 11 0	60	3 10 6	4 2 3	6 7 2
29	1 1 9	1 3 7	2 9 3	45	1 12 2	1 14 8	3 13 0	61	3 14 0	4 7 5	6 12 4
30	1 2 1	1 4 1	2 10 4	46	1 12 6	1 16 0	3 15 6	62	3 17 2	4 13 5	6 17 9
31	1 3 0	1 4 6	2 11 6	47	1 13 5	1 17 8	3 18 0	63	4 1 4	5 0 4	7 3 7
32	1 3 8	1 5 3	2 12 8	48	1 14 4	1 19 6	4 1 0	64	4 6 0	5 8 0	7 9 10
33	1 4 3	1 6 0	2 13 11	49	1 15 4	2 1 5	4 4 0	65	4 13 6	4 16 3	7 16 9
34	1 5 0	1 6 7	2 15 2	50	1 16 11	2 3 10	4 7 3	66	5 1 10	6 4 11	8 4 1
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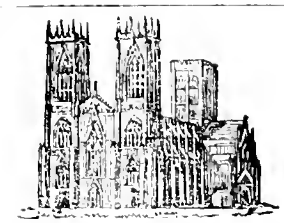

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SUMMARY.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c. &c.

LECTURE IV., Delivered [December 9, 1842.]

(Continued from page 244.)

I must now allude to a case of water-stroke, which comes on sixteen days after the mildest cases of scarlatina. I am a little afraid of generalising too much, and I only tell you that I have observed this to be the case especially about this period of time after a mild case of scarlatina; that is to say, after that kind that least excites your [illegible] that the case would prove fatal. I never allow a case of scarlatina to escape from my observation, for when it has passed over—when this period has passed—you have the acute form of dropsy, which is fatal after sixteen days, or thereabouts. The child has all on a sudden a swollen state, the face is pallid; look at the ancles, you see that they are swollen, and if you examine the urine you will find it albuminous. When therefore in this state of things you have the inflammatory dropsy, one remedy I should give is the remedy of blood-letting. I just wish to make one remark or two on that character of dropsy generally preceding disease, for scarlatina is not totally of an inflammatory character. The case I take is one in which the disease had reached the character of a fever. If it is not inflammatory, it assumes the other form, and I need not tell you that this character is rather adynamic than inflammatory. Well then, under the influence of this disposition to dropsy, and this albuminous urine, you may have first of all the water-stroke, in the second place anasarca, and in the third place peritonitis. I was called a few years ago to a case of this kind at a school. The little boy was 13 years old, he had had a convulsion in the morning, and in the evening his face was swollen. When I got there I observed brandy and water on the table—with this particular object—I believe the symptoms before they got it were those of a collapse, or resembling a collapse; they thought the child would faint, and therefore they thought they would give it brandy and water. It is important to see the first change; this change is very different to the second or third. When I got there the child was in violent convulsions; the father and mother had just arrived, and the child was perfectly unconscious of them. We had one consultation, there were three medical men, and I said, "I know of nothing to relieve this child except blood-letting." I need not tell you that there was a little startled feeling at this proposition, because I found they were under the impression before of the necessity of brandy and water. I said "place the child upright, and open the jugular vein and let blood until an effect takes place." There was a little opposition from the father, but I said "I only recommend blood-letting, I only recommend what I believe to be the only remedy." He said we had been sent for in order to try our best efforts and therefore he would leave the child in our hands. We opened the jugular vein, and took 15oz. of blood, and there was no change at all. The child was raised upright, and kept in that position, and we determined not to go on any further, so the vein was tied up. I said "I am not satisfied; we will open a vein in the arm." We did so, and we took 25oz. of blood. At the time we took this the pupil of the eye, which had been excessively dilated, became natural; the child awoke from a dream, the convulsions ceased, and, strange to say, he never had a bad symptom, nor do I know that he wanted any other remedy. To cut the matter short, I believe he did not require any other remedy.

Now, in the first place I have just said that blood-letting is the only remedy; then in the second place I wanted to see to what an extent I could proceed, because that child was only 13 years of age. We see that the loss of 38oz. of blood—which is an extraordinary quantity—had the effect of subduing all the symptoms of the disease, and leaving the child perfectly well. I have only further to remark that there were none of the symptoms that usually follow the extreme loss of blood. I conclude with the remark that I have always formed, that when the disease is such as to require the patient to bear the loss of blood, there is no effect, except that which arises from the state of syncope, which comes on with the usual symptoms which we know to be the consequences.

I must now proceed rapidly [illegible] affections I alluded to in the first lecture, [illegible] to the hydrocephaloid diseases. You will be sometimes called to children who, slowly and gradually, glide into a state of hydrocephalus. I was called to such a case the other day. I applied leeches, and gave medicines; I thought the child was doing well, but I knew there was hydrocephalus, and I expected to see the usual symptoms, and certainly they were. The child was in a state of half-stupor—the eyelids were gaping—and there were all the slighter symptoms of hydrocephalus. But I observed the cheeks were exceedingly pale, and the lips perfectly bloodless; and I said to the practitioner, "do you not think this may be the opposite state to hydrocephalus, namely, the state of bloodlessness?" We found that the limbs were cold, and that the face was cold, and I strongly suspected that there was bronchitis or some preceding disease. There was a sort of exhaustion; on applying medicines, there was a second sort of exhaustion; and then there was extreme paralysis. I said, "He will recover if you let me just give remedies of an important nature." I said, "We must give brandy and water;" for I felt more and more persuaded that the case was one which rendered it important to give brandy and water. We gave the patient three drops of brandy and three drops of salvolatile every half hour. The child's eye no longer gaped; he went fast asleep, and when he awoke he was in a state of comparative health. We went on with the remedies, and in a few days he was perfectly well.

What, then, I have further to say in concluding this subject is, if you are called to these cases you inquire whether there are tuberculous diseases in the family, especially a disposition to hydrocephalus; and you must watch the symptoms. You must inquire as to preceding disease; for if there has been bronchitis, leeches applying, and purgative medicines daily, you may hope that there may be a state of exhaustion. The cheeks are pale and cold, and the hands and feet are cold. It is by observing the state of the hands and feet, and the frequency of the pulse, and connecting these symptoms not with the symptoms of the existing disease, but with the preceding disease, that you form your diagnosis. You may, therefore, proceed with brandy and salvolatile.

My next subject is that of spasmodic action in children. You will observe, I have already got to the fourth lecture, and the number allotted to me is 10 or 11, so I can, therefore, only touch on this subject; especially as they are more concerned with children than adults, I ought to touch on them very briefly. Now, with regard to spasmodic affections in children. They may be either *centric* or *eccentric*, that is to say, they may be connected with some disease of the brain. For instance, they may occur in hydrocephalus; in the course of hydrocephalus there may be large tubercles or tumor within the brain, and of course I need hardly tell you that the diagnosis is most important, but by far the greatest number of spasmodic diseases are of an eccentric character, and depend on the irritation of three parts of the system. First there is the state of teething; in the second place indigestible matter in the stomach, and in the third place morbid matters in the large intestine. One part of the disease in children I take to be the mild form of convulsive affection. One of the most common effects is that the thumb is drawn into the centre of the hand, the toe is drawn into the sole of the foot, and there is a little grinding of the teeth. Very often I have seen these symptoms and nothing else. I have seen nothing but a contraction of the thumb and the toe, and a little strabismus, and nothing else; I have seen a grinding of the teeth and nothing else; (with regard to the crowing inspiration, I want you to observe the physiology here.) It is nothing but a disposition to close the larynx, when there is [illegible] inspiration. Suppose this state of [illegible] to go on—what happens? A very violent kind of convulsions; this state is always characterised by violent convulsions. What are the essential differences between this crowing? They are only these,—where there is a partial closing of the larynx, and where the aperture of the larynx is absolutely closed, and whatever the effort made, there is no power of inspiration or expiration. You then see the patient in a state of struggling, something like being strangled; the countenance is flushed, and you may be sure that state is indicated by the countenance. You have, first of all, in spasmodic affection, the closure of the thumb in the palm of the hand, and the contraction of the toe in the sole of the foot. These symptoms are but evanescent. You observe another thing—a state of instant strabismus, and you must catch the first symptoms. When the child is affected with strabismus, you see there is a disposition to it, so that a little thing will excite it, and in a moment it vanishes away. The same may be said with regard to some of the other affections, but there is nothing more interesting than the grinding of the teeth; that takes place at another moment, and is altogether peculiar. I have found that out of 12 such cases 11 the have taken place during sleep; in another case crowing inspiration comes on, in 19 out of 20 cases during sleep. The reason of this I do not know; but that the disease predisposes to spasmodic affection is a fact I am perfectly confident of. You are very often called to a case of crowing inspiration, and before you get there, the child has awoke, and you find that all you have to do is to watch the phenomena.

I have said nothing in this description about the state of the brain, but I have this one remark to make, and that is, whereas in hydrocephaloid diseases the first symptoms are cerebral, and the second spinal; so in this case the first are spinal, and the second cerebral. For what happens? This thing happens:—before we had convulsions, now we have congestion, and with that

congestion of the brain. You have probably effusion into the ventricles of the brain, and then you have the second stage of hydrocephalus. It comes on under peculiar circumstances, and is not tuberculous. If you are called in under these circumstances, and you do not hear the history of the case, you may be uncertain whether the convulsive affection is primary or secondary. Nothing is more important to notice than, whether the symptoms be primary or secondary. The affection of the brain may be what is observed in hydrocephalus, but it is a secondary case. You will inquire particularly as to these phenomena, whether there was affection of the head, and then spasmodic affection, whether the affection of the head came on first, and then the spasmodic action. In some cases of congestion of the brain I see no reason why blood-letting should not save the patient from a state of jeopardy.

I now come to speak respecting the morbid anatomy. Here you see very little of the morbid anatomy. The only thing you observe is the state of the blood vessels, and the effusion in the cavities of the brain, on the surface of the brain, and at the basis of the brain. The most important object, just now, is the treatment. It is so for various reasons; in the first place, because I think the treatment some years ago was diametrically opposite to what it ought to be, and because I think the treatment I should propose to you is in the early stages of the disease only calomel. The time was when all these cases were treated with calomel. You will see in the work of Abercrombie, on the diseases of children, that in the crowing respiration and similar affections of the respiratory organs and some cerebral diseases the treatment was calomel. There is a treatise on the subject by the late Dr. Davy. The truth is, that the doctrine of the reflex function did not then exist, and, therefore, the disease could hardly be said to be understood. I invariably observe this done, namely,—in one case, freely lancing the gums; in another case, freely evacuating the stomach; and in a third case, freely evacuating the intestines. I have known a neglected state of the teeth to lead to these convulsive affections; also morbid crudities in the stomach, and a morbid state of the intestines.

I have been endeavouring simply to point out the causes of these affections, to which remedies may be applied. My remedy invariably is one that has never failed, and I have, therefore, been confirmed by subsequent experience in the truth of what I am now saying. What I would do is this: the gums should be lanced every day. Now there has been a good deal of contention about this; but I will give you an idea why I propose to lance the gums. It is not that the teeth may come through, because the teeth may not very often come through, but I am persuaded from what I have observed that there is a state you can only compare to slight inflammatory action in the gums during the whole time of teething. You have never perhaps happened to place your hand on the epegastrium; if you do, and find an indication of the heat of the blood itself, the idea is that there is a sudden state of inflammation, and I suppose something of the sort takes place in the case in which the teeth are growing in the gums. Now I am persuaded in another case that the lancing of the gums has done good. And why do I think it has done good in these cases? I have found inflammation in a state of dentition, I have repeatedly ordered the gums to be lanced, and I am perfectly sure that it has had a good effect; but long before the teeth have come through, there is no question, if you lance the gums, particularly it you first of all relieve the teeth, and then you let a little blood, but that you relieve that state of overaction in which that inflammation exists. That is the reason why you should lance the gums every day. The next thing to be attended to is the state of the stomach. You should give a few grains of ipecacuanha in order to produce vomiting. You should pass fluids through the stomach first, as it is desirable to have an abundance of fluids through the stomach, and then apply the ipecacuanha, in order to produce excessive vomiting. In order to lose no time the next thing is to have the intestines washed out with warm water. This is one of the simplest remedies, and the most natural. I do not say you should trust to this, but I think it is important it should be done. Another reason why I think this an important remedy is, that warm water removes the morbid contents of the intestines, and when they are relieved, further medicines are unnecessary. The next thing to attend to is the diet. You should give that most adapted to the age of the patient. I generally, if the patient is young, recommend asses' or cows' milk diluted, and I would recommend the thickening of it with barley, or something of that sort. I would give one remedy, because, if you give several, they may not agree with the stomach of the patient. If you imitate nature, you are most likely to supply the stomach with food suited to it, and you should only give that, and nothing more. Unless you pay proper attention to the stomach in this way, you may not be able to determine what is suited to it. This thing should be done day after day. Another important thing to attend to is this:—It is known that the crowing inspiration is produced by the prevalence of the north-east winds; what does this lead you to do? To be exceedingly careful not to expose the child to the impression of the north-east winds, and to adopt those measures of prevention which would render it safe from any fresh attack from that cause. This should be continued for a considerable time, as a child in the case of the crowing inspiration, is exceedingly liable to have it again. I must mention another point, that is, clothing. The change of air is most important, and I have known a child taken to a different atmosphere, cease to have the crowing inspiration. This has been frequently the case; and when the child has returned home again, there has been a return of the convulsions. There is a most interesting case detailed by Mr. Henry Marsh, of Dublin, in which the child had the crowing inspirations; it was taken out, and it got well, but when it was brought home, the crowing inspiration returned. I have just one final remark to make. I told you that hydrocephalus was a family disease, and, strange to say, this is a family disease. There is more danger of receiving it after the child has had the crowing inspiration. In some it has gone on to violent convulsions, and, in several instances, these convulsions have proved fatal. One of the most important results is the great expansion of the chest, and the enlargement of the thyroid gland. Now, the first thing to remark, is the effect on the countenance and on the brain produced by violent convulsions. I do not imagine that it produces the effect we see on the countenance, congestion of the brain and enlargement of the thyroid gland at the same time. But I imagine the thyroid gland becomes enlarged from the effect of the convulsions, just as the brain is affected. It is important to have this in view; for if strangulation is the result—if it tends to this effect—you must come to the conclusion, that little can be done for it. I say I have never yet seen any one of these cases, in which I have not early in the disease, ordered the gums to be lanced daily, the stomach evacuated, and then given doses of medicine. The most important thing is, that the bowels should be kept in a proper state daily with warm water, and the little child protected from the north-east winds. I must not go on with the subject of diseases in children, because I mentioned just now, that I have a given number of lectures to give on the subject in general, and therefore it may be better to begin forthwith with the diseases of the brain in adults.

Prophylactic Treatment against Hydrophobia.—At a recent meeting of the Sheffield Medical Society, Mr. W. Jackson suggested the propriety of subjecting every person who had been bitten by a rabid animal to a long though mild course of mercury. He would keep up a mercurial action for at least three months, in the hope that the mercury having thus obtained possession of the system first, would prevent the occurrence of hydrophobia.

PRACTICAL OBSERVATIONS ON THE NATURE, PECULIARITIES, AND TREATMENT, OF SOME OF THE MOST PREVALENT DISEASES, &c. CONNECTED WITH THE POPULATION OF NORTH CHESHIRE, AND SOUTH LANCASHIRE, EMPLOYED IN COTTON FACTORIES.

By Charles Clay, Member of the Royal College of Physicians, London, College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence and Medical Police, Manchester.

CHAPTER III. FROM THE FIFTEENTH, TO THE TWENTIETH, OR TWENTY-FIRST YEAR.

Although the space of time herein-named is short, it is nevertheless quite sufficient to present the enquirer with as numerous a list of diseases as any other epoch of life, though of much longer duration. It is at this time, many fatal diseases, which commenced their attack in earlier years, progress towards a fatal conclusion; and, it is at this time, also, more than at any other, that we are compelled to acknowledge the baneful effects of this peculiar employment on many constitutions that are exposed to it; whilst the high temperature, in which they are confined, causes numbers of blanched faces and weak constitutions from oft repeated attacks of menorrhagia. The constant and sudden changes from heat to cold, and from moist to dry, induce an equally numerous class of suppressed catamenial secretions; many cases of menorrhagia, are to a surprising extent; indeed, it is difficult to account for their being able to follow their employment in some cases, from the extent of the discharge, but the dictates of necessity are stern and uncompromising. In treating menorrhagia, it is almost useless to prescribe, without, at the same time, insisting on a cessation of employment; by the simple accomplishment of which, many cases are immediately checked. As many cases of suppressed menstruation are evidently from debility, I have succeeded best in restoring the normal appearances by the exhibition of tonics, such as the tr. ferri. mur., but more particularly the nitrate of silver. Perspiration, another secretion (or rather exudation), suffers materially; when carried to excess, it at once reduces the system rapidly, cough and free expectoration follow, and the case ends in consumption; otherwise the skin is unnaturally dry, the mesenteric glandstake on disease, obstinate constipation, and indigestion follow—the sure forerunners of fatal atrophy. In these latter cases, tonics are again indicated, combined with the peculiar action of preparations of iodine very carefully given, and closely watched; and occasional soreness of the gums, produced by giving very small doses of calomel in rapid succession.

There is a strong analogy between the cases of adult atrophy and those of marasmoid children; and as the tepid bath, with a small quantity of ol. terebinth. in it, has a magical effect on the latter, I have been induced to try it on the adult; and, although the trials have not been very numerous, they have been very successful. Phthisis is extensively prevalent, and there are but few exposed to its attacks who recover. After long observation, I feel certain that there is a strong connexion between this disease and scrofula; as most of the cases of phthisis (particularly the fatal ones) can often be satisfactorily traced to have had extensive scrofulous disease, in early years. Much has been said of late on the "Curability of Consumption." If, by such is meant confirmed phthisis, a wider field for practice cannot present itself, than in the manufacturing districts, to make good any such doctrine, or to furnish sufficient means to prove it a fallacy. At this period of life, scrofula is not so much seen as in earlier years; it having given way, or terminated in some other disease. In common cases of constipation of the bowels, much may be attributed to the articles of diet, such as cheese of very inferior quality, baker's bread, containing alum, and common tea and coffee, much adulterated, forming the chief articles of consumption; so that if the bowels are not otherwise predisposed to disease, they are almost certain to be much confined. Hæmoptysis, hæmatemesis, and epistaxis, occur frequently; the

two former connected with other diseases of longer standing—the latter as a substitute for menstruation. Simple chronic debility can scarcely be considered as specifically attacking any one portion of these individuals, but is, in reality, the features of the whole factory community. I may just observe, in reference to it, that females are subject to syncope, often of an alarming character. Leucorrheal discharges are very common, and very difficult to arrest (if not impossible) during the continuance of the occupation. Zinc washes, with tonics, are most effective. Fevers are very prevalent, particularly the typhus, often produced by neglected attacks of the simpler forms of fever. In the treatment of typhus, venesection (that vaunted *sine qua non* of many) is, with these constitutions, so employed, and in such locality, almost inadmissible; very few, indeed, can bear the lancet; and whoever patronizes it (under such circumstances), will have good reason to regret its use. The result of the bleeding practice is evidently more fatal than the sudorific, or other simple treatment. The stamina of this class will not bear the lancet, and persons seldom recover when bled in typhus. Some local affections are prevalent, such as bronchocele, morbus coxæ, spinal curvature, ophthalmia, &c. Diseases of the skin are not so frequent, as in earlier life; and less so, in females, than in males—probably, from their being more careful in guarding against eruptions of a contagious nature. Inflammatory attacks are common, often the consequence of checked perspiration: the most common are hepatitis and enteritis—the latter often followed by long and obstinate diarrhœas. I have already (in the last chapter) spoken of early conception, the effects of which are observable at this period, making the females look old before their time. The facilities of child-bearing, although strictly in connection with this chapter, will be considered in the next.

CHAPTER IV. ADULT FEMALES.

We now come to consider the effects of this employment on females, at the adult period of life; the diseases to which they have been, and are at present, subject: and here, if any doubts existed as to the injurious effects of factory employment, they would be entirely dissipated, by the numerous circumstances that now are too evident to be mistaken. The debilitating influence is here fully exemplified, by the frequency of abortion, menorrhagia, floodings, excessive leuchorrheal discharges, anasarcous legs, varicose veins, hæmorrhoids, prolapsus ani and uteri, diarrhœas, general debility, and easy parturient efforts. With regard to the last item, it is a remarkable fact, that difficult labours are (comparatively with other classes) *extremely rare.* For this, two reasons may be assigned—1st, The females marry when very young; 2nd, Their constitutions have a laxity of muscular fibre about them, that evidently tends to facilitate labour; and perhaps two more may be added, their labours are often premature, and even when at the full period of gestation, the children are generally smaller than the average size. To this numerous list of maladies, others might be added, which arise from the debilitating effects of those diseases already enumerated; such as flatulency, anorexia, acute and chronic rheumatism, fevers, ascites, &c. &c. Puerperal fever is by no means rare, and more or less fatal in proportion to the use of the *Lancet*; I have invariably found bleeding injurious with this class of females. In all forms of rheumatism, I have found the free use of the sulph. lotum, with carb. sodæ most effectual, as recommended in my paper, supporting the views of Dr. Munk on Angina Pectoris (see *Lancet*, vol. 2nd, 1839-40, page 783; and vol. 1st, 1840-41, page 417).

For relief in prolapsus uteri, so prevalent here, I was anxious to contrive an instrument to support the uterus, without stretching the vaginal canal beyond its normal dimensions (the fault of all the old tribes of pessaries, which increase the evil sought to be remedied (see my paper read before the British Association, published in the Medical Times, 1842, Vol. 6, page 188); and, although I succeeded beyond my most sanguine expectations, I still regret being unable to bring it within the reach of the working classes, as to price, being compelled to have the whole pessary made of either pure or German silver. From the prevalence of varicose veins of the legs, I was desirous of affording some relief of a more permanent nature than is generally practised in such cases; and, I resolved to try the plan of operation by Vienna paste, as proposed by M. Laugier of Paris, which operation I had the honour of first introducing into English surgery in 1839 (see *Lancet*, fivepapers during 1839-40-41-42). After the most decided success in no less than fifty operations (and one which failed), I am convinced that it is the most effective means of curing these obstinate cases, and may be practised (more generally than it is) with advantage. In this same class, from the effects of debilitating employment, I have witnessed a greater disposition to uterine hæmorrhage after parturition, than in any other; but it has been much more rare, since the introduction of the Ergot of Rye into medical practice. The character of leucorrheal discharges is often extremely virulent, accompanied with extensive excoriation, vaginal relaxation, and protrusion of the uterine mass; these persons so affected drag on a miserable existence, not being able to relinquish their employment for a sufficient time to establish a cure, and procure means necessary for the correction of the diseased functions. Indigestion in all its forms is observed extensively; to which their bad habits, and inattention to diet and domestic comforts, contribute an equal quota, with their confinement and employment. During the period of suckling, mothers are very liable to inflammatory attacks of the mammæ, in consequence of the milk being pent up so many hours, and the frequent exposure to sudden and extreme changes of temperature. In the adult period, bronchocele becomes more apparent, probably from less precaution to hide it. It is, however, decidedly more frequent in hilly districts, and more properly attributable to the water of the neighbourhood and atmosphere, than employment. Asthmatic affections are frequent among that class of factory workers termed card-room hands. The general characteristic appearances of this class, are, pale, sallow, thin faces, bloodless lips, and emaciated bodies, looking at least ten years older than they really are; and having had no opportunity of learning domestic management from their early introduction into the mills, they are generally very bad economists, bad managers, and make very indifferent wives for working men.

LECTURES ON CHEMISTRY.

By JOHN SCOFFERN, M.D., Lecturer on Chemistry, at the Aldersgate School of Medicine.

In accordance with our sketch of operations given in the last lecture, the first ponderable body we shall bring before your notice is oxygen, which was discovered by Priestley, or at least distinguished from other bodies, on the 1st of August, 1774. He termed it dephlogisticated air, on account of some imaginary property in regard to the much spoken of but imaginary principle, phlogiston. Scheele subsequently termed Aempyreal air, and Condorcet, vital air, because he remarked its property of supporting animal life. The term oxygen, as I have already remarked, was given to it by Lavoisier, and the other French chemical revolutionists, a term derived from two Greek words signifying *acid*, and *to generate*. When this name was first proposed, philosophers imagined that the substance under consideration necessarily existed in every acid, being in fact the acidifying principle. It is hardly possible to recognise at a glance the numerous fallacies in chemical nomenclature, which derived their origin primarily from a belief in the universal acidifying properties of oxygen; to change this nomenclature however, would be now impossible: therefore, we must be content to accept such terms as that under notice, with all due and necessary limitations. Oxygen, if we regard it in a simple and a compound state, may assume the form of solid, liquid, or gas. As a solid, we find it in combination with metals, forming a class of bodies termed by chemists metallic oxides, and which in common language we designate by the terms *tarnish*, or *rust*, also in numberless other instances. As a liquid we find it in the well known fluid, water, besides a multitude of other compounds. Gaseous compounds containing oxygen are just as innumerable; carbonic acid, or soda water gas may be mentioned as an example. Although we find this substance then, in each of the three adhesive states yet in its most simple or uncombined form, oxygen can only be obtained as a gas, the processes for obtaining which we will mention hereafter.

Of all the fifty-five simple bodies, oxygen enters most largely into the composition of this world and its inhabitants, animal and vegetable, a fact which cannot fail to awaken feelings of wonder and admiration at the remarkable power of chemical agencies to alter the conditions which characterise certain bodies in their simple or undecompounded state. These speculations, however, you will be the better enabled to enter upon, when you shall have learned the properties of oxygen. We will now proceed to demonstrate roughly the amount of oxygen entering into the composition of this globe. First of all, then, let us take cognizance of the water; at least three-fourths of the surface of the earth is covered with this fluid, the average depth of which has been so variously estimated, that I shall content myself with observing that it may probably amount to three miles, now every eight parts out of nine by weight of water, are oxygen. The crust of the globe, according to De la Beche, consists of 45 per cent. of silicic acid, a substance which contains half its weight of oxygen, and the remaining fifty-five per cent. is made up for the most part of substances rich in oxygen also; therefore on the lowest possible calculation, we cannot reckon the quantity of this substance in the crust of the globe at less than one-third. Again, every 23-100ths of the atmosphere are oxygen and every 8-9ths of atmospheric vapour. We last of all come to the inhabitants of this globe, both animal and vegetable, all of which contain oxygen, both as a constituent of their own proper tissues, and of the water which is always united with them, and which is necessary to the very existence of life. Now the result of the lowest possible calculation from these data is, that at least three-fourths of this globe, with all belonging to it, are oxygen in one form or another, a fact which demonstrates pretty clearly the important functions which it has in many ways to perform.

Oxygen may be obtained in many ways, not however with equal facility or equally pure. For delicate chemical experiments, it is usually prepared from the chlorate of potash, by distillation, or from distilled water by the agency of galvanism. In order to obtain it from the chlorate of potash, a little of this salt should be placed in a flask, or retort made either of Bohemian white, or English green glass; English white or flint glass does not answer for this purpose, being too easily fusible. English green glass, that is to say green glass containing no oxide of lead, is remarkably infusible, and therefore becomes applicable to this, as well as many other similar purposes; but it is exceedingly difficult to work, and therefore there has been of late found in the shops a green glass certainly, but merely common white glass, coloured green by some easily fusible material; this latter kind may be easily known by the ease with which it is scratched by a file. The chlorate of potash being inserted as described, join on a bent tube, and cork it if a flask be employed; if the contrary, immerse at once the beak of the retort under water in a pneumatic apparatus, the flame of an argand, or of a spirit lamp being applied to the salt, will liberate oxygen in abundance; of course the first portions of gas in this as well as in every other case of distillation, should be rejected, because it is necessarily contaminated with atmospheric air.

The theory of this decomposition is very easily understood. Chlorate of potash is composed of chloric acid, and potash; chloric acid of five equivalents oxygen, united with one chlorine, and potash is made up of one oxygen and one potassium. On applying heat, all the oxygen is given off, and chlorine united with potassium, or *chloride of potassium* remains. In chemical symbols this decomposition may be thus represented;—$Cl\ O^5$

yield $Cl K + O_6$. Oxygen gas may also be obtained from nitrate of potash by the same process, and substituting nitrogen for chlorine, the theory of the decomposition will be intelligible. When oxygen gas is required in large quantities, with only a moderate degree of purity, it is usually obtained by heating the binoxide of manganese in an iron retort; a gun barrel answers the purpose very well, or a wrought-iron mercury bottle for larger quantities; the binoxide may be purchased either in the state of impalpable powder or minute fragments—either answers equally well for preparing oxygen. By this process the gas is rendered in very large quantities, but of greater or less impurity; still, however, it will answer for the majority of purposes to which this gas is applied in the arts. The theory of the decomposition here taking place is very simple; there are four compounds of oxygen with manganese, devoid of acidity. They stand thus:—

	Mn.		Ox.
Protoxide	1	+	1
Sesquioxide	1	+	1½ or 2 to 3.
Binoxide	1	+	2
Red Oxide	3	+	4

Now, on heating the binoxide to redness, in the process just described, half an equivalent of oxygen is given off, and the sesquioxide remains. Inasmuch as this process requires an iron bottle, conducting tubes, and other heavy and expensive apparatus, other processes for obtaining oxygen may sometimes be desirable. It may be eliminated from the same oxide of manganese, by mixing the latter with sulphuric acid to the consistence of a soft magma, and heating the mixture in a glass retort. This plan, however, does not yield the gas with facility (although such would be indicated by theory), and it is altogether inconvenient. The theory of the process, however, is interesting, and throws some light upon an important class of chemical decompositions; binoxide of manganese is incapable of uniting with sulphuric acid, protoxide of manganese, however, unites readily. The mutual influences, then, of sulphuric acid and binoxide of manganese are such, that the latter is decomposed,—one equivalent of oxygen being eliminated, and protoxide of manganese being produced, which immediately unites with sulphuric acid, to form protosulphate of manganese. In symbols this decomposition is thus indicated:—

$$MnO_2 + SO_3 \text{ yield } (MnO + SO_3) + O$$

The difficulty experienced in obtaining oxygen by this last process, renders some other plan highly desirable. Mr. [illegible], of Woolwich, recommends a mixture of equal parts, by weight, of binoxide of manganese and chlorate of potash, which, being put into a glass retort or Florence flask, will yield oxygen in abundance on the application of heat from a spirit lamp or other source of equal power. Mr. Balmain, of Liverpool, has mentioned another plan; he says, a mixture of three parts bichromate of potash with four parts of common sulphuric acid, contained in a capacious retort, will, on the application of a moderate heat (a common spirit lamp), yield pure oxygen with a rapidity entirely at the command of the operator. This process has for some time been employed in the laboratory of the Royal Institution, and I believe was discovered by Dr. Faraday. The results of this decomposition are sesquioxide of chrome, sulphate of potash, and oxygen.

$$KO + 2(CrO_3) + 4(SO_3, HO)$$
$$\text{yield } (SO_3 + KO) + (Cr_2O_3 \ [illegible]) \text{ and } 3O$$

There may be enumerated several other processes for obtaining oxygen, but I have mentioned those which are chiefly had recourse to. Let us now proceed to investigate the properties of this gas.

It is insipid, colourless, and inodorous, permanently elastic under all pressures and temperatures. Its specific gravity is 1.111, that of atmospheric air being unity. It is 16 times heavier than hydrogen. At a pressure of 30 inches of mercury, and at a temperature of 60 deg. F., 100 cubic inches of oxygen weigh 34 grains. Dulong and Berzelius, however, estimate the weight of 100 cubic inches at 34.193 grains, and consequently its specific gravity at 1.1026. According to Davy's its specific gravity is 1.127. Its refractive power for light, when compared with atmospheric air, is as 0.830 to 1000. It is evolved by electrolytic action from the positive pole or anode, therefore the reason of its standing amongst the anions is obvious, as also the reason of its being formerly termed an electro-negative body. It is absorbed very sparingly by water—100 cubic inches of this fluid only taking up 3.5 cubic inches of it. It exerts no action upon litmus, nor upon turmeric paper, neither does it whiten lime water.

The most striking property of oxygen is that of its supporting combustion with great vigour, and of rendering certain substances capable of burning which are usually regarded as incombustible. Then may be remarked the wide range of its combinations, and its property of acids; lastly its power of supporting animal life.

In order to demonstrate the remarkable property oxygen gas possesses, of supporting combustion, I immerse into a bottle full of it, a taper, the flame of which has been extinguished, the wick merely remaining red hot; immediately the taper becomes re-lighted, and burns with remarkable brilliancy.

Next I immerse a piece of charcoal also in the state of dull ignition, but no sooner does it touch the oxygen gas than it becomes brilliantly incandescent, and throws out sparks in every direction.

Phosphorus and sulphur also when immersed in oxygen gas during their combustion burn with a rapidity increased to an extraordinary extent, particularly the former substance. Nay; even certain bodies usually regarded incombustible, as iron for instance, are capable of burning in this gas. In performing this latter experiment, the iron wire should be twisted into a spiral form, and immersed into the jar containing oxygen, with a bit of ignited match fastened to one extremity of the coil: combustion proceeds with great rapidity, and small particles [illegible] of melted iron, fly off in every direction, whilst one large globule, generally, remains attached to the end of the helical turns. This experiment is connected with a remarkable dispute relative to the theory of combustion.

In all these instances of combustion, an union has taken place between oxygen and the substance burned, nothing has been destroyed, no not the minutest particle; to a casual observer, such may seem to be the case, but a chemist, instead of destruction merely sees the production of colourless gases. It would be out of place for me to enter upon the consideration of all the substances formed in these experiments; I must content myself with saying that phosphorus, charcoal, and sulphur, form, by union with oxygen, substances which are sour, which redden litmus, and which, by uniting with another class of substances termed *bases*, form salts; now these are the characters of an acid. Iron, however, by uniting with oxygen, does not yield a compound endowed with these properties, consequently the union together with others of a similar class, is denominated an oxide. So remarkable is the part which oxygen takes in the chief phenomena of combustion, that it has been said to be the only supporter of combustion; and the phenomenon has been defined "the rapid union of bodies with oxygen," a definition which cannot be retained in the present day without violating our most early received ideas; for example, we should be led into the absurdity of admitting that combustion might occur without fire, and that there might be fire without combustion. The best definition for this phenomenon seems to be rapid chemical action, attended with the evolution of light and heat. I cannot conclude the subject of oxygen, without adverting to the experiment of burning iron wire, which experiment I stated to have a remarkable connexion with the theory of combustion. Stahl and his associates referred the phenomenon of combustion to a peculiar principle, which they termed phlogiston; this phlogiston they imagined to be present in all combustible bodies, and that its escape caused combustion. This theory was countenanced by the appearances which occurred in most cases of combustion; for pneumatic chemistry was unknown in those days, and if a substance were converted into a gas, it was presumed to be altogether lost. Now there are a few cases in which a body is increased in weight after being burned: iron, when burned in oxygen, is one—consequently this fact was no sooner discovered, than the theory of Stahl was discovered to be erroneous, in one instance at least; and just afterwards, pneumatic chemistry sprung up, and the downfall of the phlogistic theory was complete. Lavoisier in imagining that oxygen gas was the universal supporter of combustion, assumed that the *gaseous* oxygen was compounded of actual oxygen and light and heat—the two latter being evolved whenever the actual oxygen united with a combustible body; but the amount of both heat and light depend as well on the nature of the body burned as the quantity of oxygen consumed; indeed, there are many other objections to this theory, and in the present day all admit that it is incorrect, as must be every other theory which assumes oxygen to be the only gas concerned in supporting combustion. The very terms combustible and supporter of combustion are unphilosophical; such distinctions being dependent altogether on secondary circumstances.

ERRATUM.—In latter part of last lecture for "[illegible]" read "*exponent*."

CURABILITY OF CONSUMPTION.

(Continued from page [illegible].)

(To the Editor of the 'Medical Times.')

SIR.—In proceeding with the subject of catarrhal affections in their sanative relation to phthisis, I am tempted to animadvert upon the culpable negligence, chargeable to most of the medical officers of our public institutions, in their examinations of the history of disease, particularly that of Catarrh. To this, as much as to any other single cause, would I attribute the mistaken views entertained and propagated on the incurability of consumption. I have attended six general hospitals and am unable to call to mind one instance in which the history of chronic catarrh was traced back to its commencement, and subjected to careful and scientific analysis. We should not content ourselves with merely ascertaining the state of our patients a few months, or a few years back, but if their cases be of long standing—as ancient as 20, or 30 years (and there are many such),—it will prove advantageous to collect as much information as possible, relative to the circumstances connected with the first stage or stages of development. It will be ascertained, in numerous instances, that unequivocal signs of the existence of pulmonary consumption preceded the catarrhal invasion. The most distinguished members of the auscultatory school are either decided advocates of the curability of phthisis, or exhibit a strong leaning that way; and there is no class of phenomena,—physical, constitutional, or pathological, that seems to have influenced their deductions more than that now under consideration; and yet they have all overlooked nature's method of cure. If I could be led by mere authority on these points, that of Dr. Ramadge would no doubt operate strongly; he has had the rare advantage of more than twenty years large experience in consumption, his patients in the infirmary alone averaging 100 a week; has watched numbers of them from the commencement through the intermediate time; has received them in a state of phthisis, and traced its gradual or rapid succumbence to catarrh at an earlier or later period; seen them die of disease, non-phthisical, and examined their lungs, &c., after death; but—

'*Nullius addictus jurare in verba magistri.*'

I have seen and judged for myself. In company with my fellow pupils, I have had many a weary walk from one part of London to another, attending him in his [illegible] journeys of investigation. On one occasion we had not fewer than six cases in succession, of persons who had been labouring under chronic catarrh, but died not of it, —all of which showed one or more of the ordinary signs of pre-existing, or co-existing, tubercular disease, such as adhesion of the summits of the lungs to the adjacent ribs from the proximity of tubercles; semicartilaginous, puckerings

of thickenings of the pleura pulmonalis; disseminated black pulmonary matter; cicatrizations; pasty tubercles; and black oval discolourations marking the site of tubercles absorbed or softened and eliminated, &c. &c. These spots in some cases, when a section of the lung was made, were seen standing out in relief from the incised surface passed over by the edge of the scalpel; in others the absorption was incomplete, and they were partially occupied with tuberculous matter; or various modifications presented themselves from the almost indistinct trace to the indurated quiescent tubercle. It would be tiresome to describe the numerous anatomical minutiæ seen on these dissections. Holiday pathologists may overlook, but cannot avoid confessing them when demonstrated to their senses. The compatibility of chronic catarrh, with long life and tolerable general health is a matter of every day observation, but the very large proportion of cases, wherein the lungs are or have been tuberculated, cannot even be suspected, unless by persons who have frequent opportunities of autopsy, and direct their attention carefully to the subject.

The occurrence of catarrh at an early period in the winter, renders its own persistence probable, but its power over phthisis more decided; when in early spring, and the latter disease is incipient, or moderately manifest, time enough may remain to overcome it, and the bronchial irritation may be quite removed or reduced to a latent form by the genial temperature of the summer. Many patients escape in this way.

Old catarrhal asthmatics hardly ever suffer tuberculous disease of the bowels, and its consequence—diarrhœa. When catarrh arrives too late to stay the course of consumption, if it proceed to the length of bringing on emphysema, it has the effect of preventing the diarrhœa, which so often prostrates and cuts off the patient rapidly, and, as it were, prematurely.

Polypi, or any mucous intumescence in the nasal fossæ, obstruct the free egress of air in expiration, and produce effects similar to those already described. A chronic thickening of the membrane of the nose may frequently be observed in children of a strumous habit, and the amount of obstruction from this cause or from catarrh, though apparently insignificant, rarely fails to operate as a check on the progress of phthisis. The mechanical impediments presented by the presence of polypi are sometimes so considerable as almost to preclude the possibility of breathing through the nostrils, and rarely so slight as not to embarrass it in some degree. Persons who sleep with their lips closed, labouring at the same time under contraction of the posterior nares, or in whom the uvula or soft palate is preternaturally enlarged, necessarily make prolonged expirations, which, in consumption, cannot fail to have a beneficial tendency. I need not do more than allude in this place to the other morbid conditions of this vestibulary portion of the respiratory apparatus, and its adjacent structures, such as lupus, ozena, disease of the antrum, congenital malformation, &c., which will all be found reducible to the same principle; they at times narrow the passages, and prevent the easy exit of the inspired air.

Uterine hæmorrhage, *and profuse or too frequent bleedings from any part of the body*, exercise—intermediately, through the disordered state of the heart's-functions, or the structural alterations they superinduce,—a greater or less control over the progress of consumption. Hemorrhoids and sanguineous fluxes from any part of the Portal system, menorrhagia, epistaxis, hematemesis, and immoderate loss of blood from venesection or accidental injury, are all followed by disturbance of the circulation at its centre, and tumefaction of the mucous bronchial membrane. Hemorrhages from the lungs,—the result of lesion in that organ, and, when profuse, indicative of an alarming state of pulmonary disease,—often form an exception to this rule: yet I have no doubt they may, under favourable circumstances, and when very moderate, if accompanied by blood-letting in small quantities often repeated, to lessen the vis a tergo, be either devoid of danger or contribute, to a slight extent, towards modifying the character of the tuberculous progress or manifestation. Dr. Ramadge, I should here mention, is averse to the practice of venesection under such circumstances, as, indeed, are many of the most eminent practitioners of the day. I shall return to this question, in discussing the treatment of phthisis, as I regard it by no means of secondary importance. I would here observe, that excessive venesection, or extensive loss of blood, from any cause, is in itself an evil of no common magnitude. The heart, like every other muscular part, gives way, and, as Corvisart expresses it, falls into a state of passive aneurism. Great care should be taken not to reduce it to a state of debility. We may purchase benefits too dearly. The extreme to which venesection was formerly carried in some of our hospitals, multiplied, not a little, cases of derangement in the circulation. I recollect, among many others, two remarkable instances of this in the London Hospital, under the treatment of the late Dr. Robinson. Though very unsuccessful, no individual could be kinder, or more attentive, to his poor patients; but unfortunately he was always suspecting the existence of dangerous affections of the heart, and frequent, sometimes copious, bleeding was his panacea. Susan Thomas, aged 30, of 11, Back Lane, St. George's-in-the-East, was bled 50 times, whilst under his care. Elizabeth Good, aged 22, Queen Street, Tower Hill, was, by his direction, bled 57 times in the course of four years, had 150 leeches applied, and was repeatedly cupped. They both previously exhibited the symptoms of phthisis, which the derangement of the cardiac functions had removed, but from the great loss of blood, they became excessively plethoric; a state of cerebral congestion, with frequent hemorrhage from the nose, stomach, bowels, and other parts, were the consequences of this treatment. He fell into Charybdis in the endeavour to avoid Scylla. He had been surgeon in a local militia regiment, and seemed to forget, that bold military practice was not exactly applicable to civil life,—a fact I have verified by my own experience.

I beg to subjoin the description of a case of uterine hemorrhage complicated with phthisis as given by Dr. Ramadge in a letter to Mr. Keddell of Sheerness, who had sent the patient to town to have the benefit of his opinion. "There is old phthisical disease in the summit of both lungs. The want of clearness in the respiratory murmur is most obvious in the infra clavicular region of the right side. The right lung is more affected than the left. There is chronic disease of the left lung where it is in contact with the pericardium. Though the physical signs of phthisis are evident to me, yet the general or constitutional symptoms have never been well marked, owing to uterine hemorrhage three years ago, which was exceedingly profuse. Dilatation of the heart followed, as well as a tumefied state of the bronchial mucous membrane. Owing to the imprisonment of the air which always follows such a change, the lower lobes have been preserved from contraction, and are in a state unfavorable for any new tuberculous deposit. The parts of the chest which require attention are the trachea, the summits of both lungs, and the region of the heart. The complaint which affects Mrs. H. is of a triple kind. There is consumption—masked and interrupted by bronchial disease, and dilatation of the right side of the heart."

The foregoing opinion was given many months since, yet the lady has improved to the satisfaction of all parties.

DISCIPULUS.

(To be Continued.)

The Major Counterbalanced by the Minor.—The late Dr. Babington remarked, "That medical men in general were too careless as to the vehicles with which they combined active medicines; and that he had known many cases of affections of the brain and nervous system made worse by medical men ordering camphor mixture in place of plain water, with other medicines which might have done good. The camphor mixture had acted as a stimulant, and thereby prevented sleep and rest, which were the objects most desired."

PENCILLINGS OF LIVING MEDICAL MEN.

Dr. Chambers.

An apology is perhaps due from us to this eminent physician for having hitherto omitted to introduce him in our pages. But our omission has arisen not from any depreciation of his merits, but simply because, however conspicuous be his professional position, he presents comparatively few points for remark. No one who ever held a rank so high in the profession, and enjoys a practice so extensive, can afford less scope for a sketcher while living, or can leave fewer materials for a biographer when dead. He is not one of those whose abilities, now shrouded by neglect, or repressed by misfortune, will be rewarded ultimately by time, and receive from a grateful posterity that recompense which envious or malignant contemporaries withhold. His is the present hour, and he has little to expect from the future. *Carpe diem* may be, as indeed it is, his motto, for the morrow will know him not. With an extensive field for research, he has written no work, enjoying ample opportunities for imparting information, he has implanted in no pupil's breast any record of his fame. Appreciated as an accomplished physician now, and rewarded by the most extensive practice of the day, he will leave no memorial behind him, and have as little claim to posthumous recollection. His career will resemble that of yesterday's sun, which threw out light and warmth in its transit, but to-day presents no shadow of its course.

But to descend from speculation to narrative—from contemplative anticipations to the prosing affairs of life—the subject of this sketch is, we believe, the son of a medical man, who not only enjoyed a competent practice, but succeeded in bequeathing the greater part of it to his descendant. The facility with which practices are thus handed down from father to son, forms one of the great inducements for a medical man to settle in the metropolis. In the provinces a practitioner has little difficulty in finding immediate employment, he may even amass a considerable fortune, and this he may secure to his offspring, but not his practice. His village rival or some obscure stranger, will step between his son and the desired inheritance, a consequence of the passion for novelty which generally prevails in rural districts. But the metropolis—a field so immense that a man, however great his abilities and exertions—is doomed, if a stranger, to pass the prime of his life in neglect, his whole existence may be spent in anxious inaction, and he may descend unknown and impoverished to the tomb. The cause? The public hospitals are closed to him unless he be possessed of claims by nepotism, sycophancy, or corruption! If he succeed in entering *their* portals, his practice is established, and his son in most cases is sure of the eleemosynary succession.

This sort of entailment is of course open to all the objections that may be urged against hereditary peerages and hereditary barbers; for though it follows not that the son of an able man must be an ass, it would be as vain to expect a budding peer to wag his tongue, or an incipient barber to wield his razor, with all the practised ease and dexterity of his progenitor, as to anticipate that the ability of the father will be inherent in the offspring; and by this kind of inheritance it is that the public hospitals are blocked up by the abortions that now so frequently disfigure them.

Chambers is also indebted for his success to a number of those fortunate accidents which are often more conducive to success in life than the most consummate abilities. His relation (a nephew we believe) to the late Charles Grant was eminently serviceable to him before the sleepy days of Lord Glenelg, and the death of old Dr. Warren, who lived in the same street, was one of those unmerited God-sends which occur to a few favoured individuals, and which give sunshine and ease to the rest of life's voyages. A residence in the neighbourhood of some fashionable hotels has also been of use to him, Mivart's alone, it is said, having sent to him as many patients as St. George's Hospital, of which he sometime ago resigned the physicianship. His practice is reported to be very lucrative.

Chambers, it is said, made a fortunate appeal to the apothecaries at the West End by the charms of his table. No prayers were necessary, cant was uncalled for; even grace itself, perhaps, wasdispensed with: he had only to assemble a dozen or a score of these worthies at his board twice or thrice a week, ply them heartily with wine, and *presto*, in their estimation, he at once became the prince of physicians. Esculapius himself, had he descended upon earth, and trusted exclusively to the strength of his powers, would have had no chance with him in so far as were concerned those worthy men who thus expected and received a good dinner to-day and a good dinner "the morn." They of course, in return, puffed the giver of these good things; for though the vulgar proverb declares that men's sympathies must be assailed through their heads or their hearts, wiser philosophers are of opinion that they may be more immediately enlisted by an appeal to their stomachs. The secret of charity-dinners lies solely in this; without the previous feed not a solitary sovereign would be forked out for "the sacred cause of charity:" and Chambers shewed his profound knowledge of the inner man by at once lighting upon the expedient. Nor let it be supposed that while alluding to the practice we are condemning the man. Justice compels us to state that their recommendation was just, and that amongst all the fashionable physicians of the day it would be difficult to find one more competent for his post. His practice, though by no means profound, evinces a simplicity and a science which others of the profession would do well to imitate.

His appointment as physician to St. George's Hospital (for which, we understand, he was indebted to Brodie, or Sir Benjamin's uncle, Everard Home,) also exerted no inconsiderable influence on Chambers's fortune, as it took place at a time when office in this aristocratic institution was a passport to fashionable practice. That it is so no longer, the miserable brigade of sucking surgeons, and struggling physicians, who now, with the exception of Keate, form the staff of the establishment, can painfully testify. But in the palmy days of nepotism it was otherwise. The Highlandmen's cry of "Shouther to shouther" (shoulder to shoulder), was never more strikingly illustrated at Waterloo—they never stuck more closely together than did the St. George's men of these days. It was in short a real family compact: Chambers cried up Brodie; Brodie extolled Chambers; the satellites and retainers of each caught up the echo, and not a man within a mile of Hyde-park corner had a chance of practice, unless he belonged to the clique. The whole practice at the West End has thus been reduced to a sort of family affair. "Scratch me, and I'll scratch you," is the universal maxim, and in so far as Brodie and Chambers are concerned it is maintained resolutely as ever. They have each left St. George's, but the inferior adherents who remain would no more think of taking a fee without calling them in, than they would of refusing one from the unlucky wight that falls into their hands. Hence the extensive employment of Brodie and Chambers as consulting practitioners, and though the men may be good, the system is bad. It in fact reduces an honourable profession to the condition of a mercenary *trade*.

If called upon to give a stamp of individuality to Dr. Chambers as a member of the medical profession, we should experience some difficulty. Of a man who has never written, or publicly spoken of a science, it is no easy matter to form an estimate, except in a general way; and yet our readers, as well as the public in general, may be desirous of knowing to what peculiar qualification it is that the subject of this sketch owes his commanding and fortunate position. They will also be anxious to know if he presents any feature that strikingly separates him from the common herd. But in truth it is difficult to gratify their curiosity. In his private capacity he stands aloof in striking if not stately isolation from his professional brethren: no hospital now witnesses his presence, no medical society or club is honoured by his attendance; at professional *conversaziones* he is mute, if not absent; and the object being gained, the means are forgot, the elevation being reached, the ladder is cast off. The apothecaries who formerly sat at his board enshrine themselves there no longer; and while physician at St. George's, he passed with such silent rapidity through the wards, that it would puzzle the most assiduous student to remember a word that he uttered, or—when assisted by the Hospital journals—an act that he did. Not that Chambers is a gloomy misanthrope, or an idler His appearance, his character, and his habits utterly belie the supposition; not that he is naturally or professionally incompetent; his language, his aspect, his full-developed forehead show that his mind is masculine, though not so gigantic as his body; and the facility with which he shines in those lighter branches of classic literature which were wont to form (and probably still do form) so large a share in the system of education adopted at our fashionable schools and universities, indicates that his powers have not been uncultivated, though many perhaps will concur in the opinion that, applied to such trivial, if elegant, purposes, they have been woefully misdirected. However, *chacun a son gout*, it is Chambers' pride and pleasure so to excel; and he probably rejoices more in the late Marquis of Wellesley's apostrophe,—who in a short Latin poem written a few days before his recent decease, addressed him as classic "Camerarius,"—than if he had indited Hippocrates, sent forth the works of Cullen, or rivalled Hunter or Harvey in fame.

In personal appearance Dr. Chambers is a stalwart healthy man, bearing a greater resemblance to a veteran life-guardsman than to a fashionable physician. He is, however, of agreeable manners, and, so far as physicians can be, of feeling disposition. As already mentioned he has written no work, though he is reported to be an elegant classical scholar, and to possess considerable dexterity in writing Latin verse, an accomplishment in the nonsense department of which Sir Henry Halford also excels.

PHILO-PROBE.

EXTRACTS FROM FOREIGN JOURNALS.

(From the Berlin Medicinische Zeitung, for the 'Medical Times.')

GERMAN.—*On Fractures by Dr. Schlesier.*—The object of Dr. Schlesier in this paper is to shew the advantages of Seutin's starch bandage in fractures, and especially for children, as he considers that with its greater firmnesss it is more simple and lighter than the common bandages, &c., and therefore controuls the fracture and its coaptation much better. He gives three cases of fractures in children.

Cure of Two Preternatural Joints in the same Individual, by C. G. Gunther, Surgeon.—A labourer being at work in a coal mine, a large mass of coal fell upon him, by which, besides other injuries, the left arm and leg were fractured, the tibia obliquely, the fibula across, in the forearm both bones. The fracture apparatus was of the writer's own contrivance. In six weeks the ulna was consolidated, but the radius was quite moveable, and crepitated strongly. On the 49th day, he first remarked the growing of the toe nails of the fractured leg, shewing that the consolidation of the fracture had commenced.* It went on to the 61st day, when both fractures of the leg were found disunited. The writer attributes the failure of union to the very poor living of the patient. Through nourishing diet, with a good allowance of beer, the fractures of the arm were quite consolidated in twenty weeks, but the tibia formed a preternatural joint. At the end of 145 days he caused the patient to walk about his chamber, supported by a person on each side, as from weakness of the left arm he could not hold the crutch. After some days the arm and leg became stronger, and he was able to walk alone. In some months from the accident he was able to labour.

* This remarkable physiological phenomenon, which teaches how economically nature proceeds in the employment of organic materials, I (M. Giunthur) have observed in several instances during nine years. In 1832, a very observant young man, who had a fractured leg, perceived that the toe-nails of the foot did not grow like those of the sound one, for they continued in the same state as at the time of the accident. He had cut them the day before the accident. This circumstance appearing to me to be in connection with the healing process, I paid much attention to the further condition of the nails; and on the 50th day I first perceived a renewed growth of the least toe-nail, in a few days the three others, and after a week the great toe-nail. Repeated observations have given me certainty that the restrained growth of the toe-nails is a constant phenomenon with fractured limbs.

Cure of Artificial Joint, by M. Wiefel, Surg.—A healthy man, a servant, æt. 26, had fractured both bones of the forearm more than a year before he applied to the writer for advice. The arm might have been bent in any direction, and in moving it, the ends of the bones might have been heard rubbing against each other; they were apparently held together by a kind of capsular ligament, thus forming a false joint. On consideration, he thought it might be cured by producing an artificial anchylosis; with this view he inserted two long needles between the fractured ends of the ulna, so that they passed quite through the artificial joint from one side to the other, letting the needles remain. On the first day they caused much pain, on the second but little, on the third the pain was again violent, on the fourth much increased, and extending to the whole arm and shoulder, with swelling of the forearm; on the fifth it extended farther, even to the head, with violence: as the punctures now began to suppurate, the needles were withdrawn; cold applications to the arm, which in two days relieved the pain. The place of the fracture after fourteen days remained swollen and hard. Fourteen days after the first operation, three needles were inserted in like manner between the broken ends of the radius; during the first five days the same effects were produced as with the ulna, but the subsequent inflammation of the place of fracture was later and stronger. The arm remained four weeks in one position, and six weeks after the acupuncture, the bones were completely united, but that of the radius yet remained tumefied and painful.

Reunion of a Divided Finger.—A cannoneer of the 8th brigade of artillery, severed completely with an axe the last phalanx of the left middle forefinger, close to the joint. After an hour, when received into the lazaret, the cut off end of the finger was placed in its proper situation, and retained by plaisters and bandages, it became completely united by "prima reunio."

THE WAR (MESMERIC) IN THE NORTH.

To the Editor of the 'Medical Times.'

SIR,—You seem completetely to have overlooked the mesmeric war now raging in the north, between Mr. Squire Ward, Mr. Wilson, and Mr. Wood, relative to the late operation at Wellow. Permit me to send you an outline of one of the engagements. Mr. Wilson commenced the attack in *column*, by discharging a Marshall's (Hall's) baton, in the shape of the excito-motory system, by which he hoped to put his adversaries completely *hors de combat*: but unfortunately, in the onslaught, he went too far—*id est*, he proved too much. *Videlicet*, after a flourish (of trumpets?) about the said Marshall's (Hall's) wonderful discoveries—discoveries I suppose he calls them, because the said Marshall, in a foraging expedition, *picked them up* in Prochaska, Whytt, and

Albert Haller—he continued to harass his enemies thus:—

"Its action (*the excito-mot.*) is so entirely independent of *sensati n* and *voluntary agency*, that it is best manifested when these are temporarily suspended. For instance, a person is asleep, you gently touch the eye-lashes; the impression is conveyed by the incident nerves to the spinal marrow; a corresponding impression travels thence to the muscle surrounding the eye-lids, and these are closely pressed together. Or, you tickle the soles of the feet—THAT LEG, and, MOST PROBABLY, the OTHER (!) also, are retracted."

After a prodigious effusion of—ink, he knocks his adversary on the head thus:—

"The only alternative is, that the patient *felt all* that was inflicted (?) on him, and that he had made up his mind to bear it without flinching, and did so (!). This is the solution of the whole mystery. Let mesmerists take the hint—(READ THIS, YE OUTER BARBARIANS, AND TREMBLE! The Governor Lin!)—and before another case of 'amputation without the knowledge of the patient' is got up, let them get up the discoveries"—(that is the foraging discoveries)—in the nervous system "of Doctor (Field) Marshall Hall."

Bow! wow! wow! "Let no dog bark!"—*Governor Lin, passim.*

Did ever Christian, Pagan, or man hear such stuff? The fool who fancied he played upon the organ, when he only blew the bellows, *was* a sage to Mr. Wilson. But let Mr. Squire Ward advance:—

"According to Mr. W.'s *law*, I presume, that on touching the eyelashes of *one* eye the orbicularis muscle of *both eyes* ought to be contracted at the same moment, but he does not say so, *nor is it so invariably*. Again, by tickling the sole of one foot, so as to produce an effect upon the nerves, and consequent retraction of the leg, BOTH LEGS ought thus to be *simultaneously and invariably* retracted—but Mr. W. does not say so—*nor is it so invariably*.

"Now we will hear Dr. M. Hall," continues Mr. Ward, "in the *Lancet*."

(What! Monsieur Tonson come again! I thought he had committed suicide; at any rate, I know he went to CHURCH-*ill*, looking *werry*—*vide* Boz, for this elegant, monosyllable—pale, desperate, and determined to *do* or die). To resume:—

In the *Lancet* of the 3rd Dec., this gentlemen is reported to have said at the meeting of the Royal Medico-Chirurgical Society that the case 'proved too much.' It was said (*the* Marshall *loquitur*) 'that whilst one limb was undergoing amputation, the other remained perfectly motionless. Now unless man differed from all other animals *this could not be*. Even when the head* which is the organ of sensation, was *removed*, the *laceration, incision*, or puncture of *one limb*' (WHAT HAS BECOME OF THE SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS?) induced muscular actions in the other. Was the source of these movements as well as sensation annihilated? Certainly not; for the patient breathed perfectly, swallowed brandy and water, &c. This is Dr. Hall's *oral* statement,' continues Mr. Ward, 'now mark his PRINTED one. A horse is struck with a pole-axe over the anterior lobes of the brain. It fell instantly, as if struck with a thunder-bolt; it was convulsed, and then remained motionless. It shortly began to breathe, and continued to breathe freely by the diaphragm. *When lacerated* by a sharp or pointed instrument on any part of the surface of the body, it was TOTALLY MOTIONLESS, manifesting no evidence of *sensation* or *volition*. Here is a discrepancy which I cannot reconcile, viz., that in an animal, whose *head has been cut off*, muscular actions are induced in both limbs by pricking or lacerating one, while in the animal which has *only been stunned* by a pole-axe, the same prickings and lacerations fail to produce the same effects—and in spite of the animal remains "totally motionless."

* Dr. Hall has discovered that the head *contains* the brains.—*Vide his lectures in the Medical Times*:—

But we cannot follow Mr. Ward further in his very crushing exposé of Dr. Marshall Hall. Let us see what Mr. Wood says. After stating that he was unwilling to say anything of "the luminous discoveries of Dr. Hall, because he would be compelled to quote Prochaska for them, he thus continues:—

"I will content myself with mentioning a case in which this *distinguished* physician was concerned, and in which it might have been supposed that he would have availed himself of some of that knowledge which Mr. Wilson seems to think he possesses, to alleviate the distressing sufferings of his patient. A few weeks since I was accidentally introduced to a family, in which the only daughter had been suffering for TEN YEARS from a severe form of St. Vitus's dance. Every thing had been tried in vain; no expense whatever had been spared in the attempt to relieve her sufferings. Amongst other physicians who had been consulted, this Dr. Marshall Hall, who was known to have cut up a vast number of animals, and was supposed, in consequence, to know something about nervous diseases, was unfortunately trusted for 12 months with the case. At the end of this time the patient so far from being in the slightest degree improved, was worse than ever; and, in addition to her distressing malady, had her shoulders disfigured by cupping, and her teeth and gums destroyed by mercury, which had also ruined her digestion. When I saw her I thought if she could not be cured, she might at least be greatly improved by mesmerism, and offered to try it. My offer was at once accepted, and, for the last five weeks, I have had the satisfaction of seeing in her a steady and decided improvement. The change has caused no less delight to her family and numerous friends, and from the decided, and I may say rapid improvement that has taken place, I think we may reasonably hope that it will continue, and that she will be perfectly restored."

To offer any remarks upon evidence so conclusive of what Dr. Hall himself means, would be "gilding refined gold." Mr. Wilson, by way of "taking in" the clodpoles of the north, fulminates the great London physician Dr. Marshall Hall, of West Middlesex Assurance notoriety, against them, and mark the results,—he has proved himself ignorant of that to which he pretended, and has exhibited the *great* physician as a wretched pilferer, a poor creature that does not know, to-day, what his opinion was yesterday.

Yours, &c.

BETA.

9th January, 1845.

ROYAL MEDICO-BOTANICAL SOCIETY.

January 11th.—Dr. Farre in the chair; Mr. Rodgers delivered a Lecture on the Proximate Principles of Opium.

He observed that:—Of all the products of the vegetable kingdom, there is, perhaps, not a more complicated one than that which is obtained from the papaver somniferum. This alone is an object of much physiological and chemical importance; but there are special matters connected with opium, which make it of great interest to the chemist; for it was during the examination of this substance, that morphia was discovered—a discovery which has given rise to investigations that have already produced the most important results, not only in organic, but inorganic chemistry.

Mulder analysed five specimens of opium from Smyrna, and the following is the average of his results:—

Narcotine	7·713	Caoutchouc	4·338
Morphia	6·228	Resin	2·753
Codeia	0·767	Gummy extract	25·370
Narceia	9·000	Gum	1·706
Meconia	0·790	Mucus	18·733
Meconic acid	6·121	Water	12·108
Fat	2·209		
		Making altogether	97·836

The existence of other principles in opium, besides the above, has been supposed by other observers; of these, I may mention Thebaia and pseudomorphia. The former is described by Couerbe, as existing in a small proportion, and the latter by Pelletier, as occasionally occurring.

Narcotine is readily obtained from opium, by the action of boiling water, and is preserved in crystals, as the ethereal solution cools: other methods are occasionally adopted, but the above is the readiest mode of preparing it.

Morphia can be obtained from opium by many processes, one of the best is that proposed by Drs. Gregory and Robertson, a modification of which is adopted in the present pharmacopœia.

The tests for morphia in the pure state are very decisive. The following are the best:—

Nitric acid, when dropped on morphia or its salts, produces a red colour, which soon becomes yellow.—Neutral perchloride of iron produces a blue colour.—Iodic acid, when added to morphia, is deprived of its oxygen, the free iodine can then be detected by starch.—The salts of morphia are more soluble than itself.

CODEIA was discovered by Robiquet, 1832, and Pelletier states, that he obtained 6 ounces from 100 lbs. of Turkey Opium. It differs from morphia in being more soluble in water, and by not being reddened by nitric acid or blued by perchloride of iron.

NARCEIA was discovered by Pelletier, in 1833 It is obtained from opium by a very complicated process. It is, when pure, in white silky crystals, very sparingly soluble in cold water, soluble in alcohol, but not in ether. The action of acids is peculiar; when strong, they decompose it, but when diluted they gradually combine with it, producing at first a blue colour, which passes into purple and red, and finally disappears.

MECONIA was discovered by Dublanc and Couerbe. It exists in very small proportion, and its properties require examination.

THEBAIA was also discovered by Couerbe, and described by him to possess very strong alterative properties.

MECONIC ACID is peculiar to opium, and forms salts with various bases. It undergoes peculiar changes by the action of heat, and produces two new acids, viz., the metameconic and pyromeconic.

This acid produces with the persalts, a red colour. Much has been said about the tests for opium; it is one of the few organic poisons which admit of decisive detection; for if we can obtain proof of the presence of morphia by the tests already enumerated, and the red colour, by the action of the persalts of iron, on meconic acid, from a suspected solution by the means recommended in various toxicological works, there is no doubt of the existence of opium.

At the next meeting, Dr. Sigmond will deliver a lecture on the effects of some medicinal plants and their preparations, in the treatment of asthma, more especially during the paroxysm.

CHANCES OF CURE FOR HARE-LIP.—M. Roux has now operated for this deformity above 100 times. In cases of "division simple," that is, we presume, when the division extends no further than the lip, success has attended the operation about twice in three times; but in complicated divisions, or when the fissure has extended to the palate, &c., only one-third of the operations have been thoroughly successful.

TO CORRESPONDENTS.

The Pharmaceutical Journal.—*A correspondent, in whose eyes the Pharmaceutical body finds little favour, sends us a paper in which the scalpel is very freely used on that periodical, but occasionally not in suited, subject, the "Pharmaceutical Journal." If the hilarious correspondents in excuse for heaving wits, had been similarly remunerated for their duped unity in —poor editors—our correspondent would have been less exacting in his requisitions, and have probably written with something less of severity; as it is, we must content ourselves with giving the concluding portion of his observations* in extenso. *"Some Correspondents are evidently indulging, at this hilarious season, in a little gentle hoaxing of the discriminating editor. One sends up a specimen of what he thinks fictitious ammonio—chloride of iron. The editor announces that it "possesses none of the characters of that substance, and appears to be hydrochlorate of ammonia, bruised, and slightly tinged, probably with tincture of sesquichloride of iron." Another 'Correspondent' informs us that a dealer in cream of tartar called on him a short time ago, to inquire the effect of plaster of Paris on the system, as he had sold a quantity of cream of tartar at a price at which it was impossible to furnish it genuine, and which did not admit of its adulteration with so expensive a substance as above.—Too bad. L. E. Y. and H. P. S. are informed that the 'Council has not yet instituted an examination for honours.'—We suppose the above gentlemen are in haste. A Country Associate is informed that 'fermentation is a necessary process in making cyder.' Another Associate is informed that the editor has 'no evidence of the fact, that water with a spare diet tends to make people stout. It is not probable that the elements of water are assimilated in the formation of fat.' 'A Chemist and Druggist' is responded to that 'we know of no chemical agency practically available, by which thick flint glass might be decomposed, so as to obtain perforations of determinate dimensions through it.'—This is exquisite! 'Amicus' is informed that 'the prohibition against pirating the diploma of the society is general, admitting of no exception.'—'Spoke like an oracle!' 'The* Closing of Shops,' *saith the editor to many correspondents, 'is a subject that has had our most mature consideration, not only at the present time, but also long before the establishment of the Pharmaceutical Society. The facts mentioned by several of our correspondents tend to confirm the opinion which we had previously formed, from observation and experience, viz., that'—prepare yourself, good reader—'the question is one of extreme difficulty.' If Mr. Bell alludes here, as his words imply, to the mere shutting up of the shop, we think he and his correspondents are making a pother about a matter which a stout shop-boy would soon settle; but if the 'extreme difficulty' be in the question—the* vexata questio—*of the hour for the general closing of chemists' shops, then we appreciate his good sense in not, editorially, attempting to 'bell that cat,' without the cordial co-operation of* all *his 'intelligent correspondents.' So much 'for light pharmaceutical reading.'"*

Mr. Brookes *writes to us to say, that Dr. Ennis, from his note in our last number, seems to have misunderstood him. He says, the "tingling of lameness at the tips of the fingers" whilst Mesmerising, is certainly not an invariable accompaniment, and is observable only in some cases, of severe neuroses, and invariably at the hands passing over particular parts, and is always an indication of the abnormal condition of those parts. He "could wish also Dr. Ennis had been more accurate in his recollection of his observations as to 'feeling indisposed after mesmerising.' The operation, doubtless, produces much greater exhaustion than could result from the mere muscular exercise, and that is the only inconvenience he has* generally *experienced, but in a few epileptic, and other cases, where much uneasiness has existed, he has occasionally experienced considerable indisposition after."*

Serres's Lecture on Organogeny—Dr. Williams on the Practice of Physic—*our brilliant friend* Probe *on the St. Thomas's Lecturers—the Editor on Foreign Medical Government, next week.*

Mr. Craig sends us an account of some phrenomesmeric experiments performed by him at York, and published in the "York Courant Gazette," from the report of a medical witness. We need only allude to one fact in the statement, viz., that an incredulous medical assistant, whose name is not given, was mesmerised on the first essay; and on having his organ of combativeness excited, "started up—gave Mr. Craig a blow on the face, which cut his lip, and afterwards struck him violently on the breast, so as to render him sick;" a pretty good proof, we should think, of the absence of collusion or the presence of more love of martyrdom in the cause of a hoax than we should be disposed to exhibit. The anecdote reminds us of a phrenological lecturer who, on being knocked down by an examined young man, who had been just told by him that he had the organ of destructiveness very badly developed, got up with great joy beaming in his countenance, and exclaimed,—"There, ladies and gentlemen, the most satisfactory *proof of the truth of phrenology I ever met with in the course of my life." We have also received notices of the Lectures of Mr. Brookes at Maidstone, and Mr. Spencer Hall in Yorkshire. They are interesting, but* space *is wanting.*

Letters have been received signed J. Selkirk and H. N. We have been sent also Mr. Smith's case of gonorrhœa. We have some doubts about the accuracy of the nomenclature. Can they be removed?

A Correspondent writes.—A case of Spina Bifida terminated fatally here a few weeks ago. The circumference of the tumor, a few days previous to death, was about 20 *inches, and embraced, at least, three of the dorsal, and two of the lumbar vertebræ. The age at death was six years and two months. Will any of your readers favor the Medical Times with a brief statement relative to any similar case of the same extent? Hydrocephalus was combined with disease of the spine.—R. A.*

Empirical Assassination.—*We have been sent the following narrative, published in the "Banbury Guardian," with a letter containing further explanations from a Gentleman living in the district.*—"At the village of Warmington, but in the Poor-law Union of Banbury, an aged pauper met with his death under peculiar circumstances. The inquest was taken by a Jury, before George Cattel Greenaway, Esq., on the 31st. ultimo. John Coleman, proved that at four o'clock in the morning of Tuesday, the 20th of December, he found the deceased under deceased's bed room window, much hurt; the window was twelve feet from the ground, and deceased had fallen from it. The witness applied to Mr. Wyatt, the overseer, who recommended that Mr. Wise, a surgeon of Banbury, should be sent for, but witness did not think it necessary, and the following day Mr. Wise called. The witness was not aware the deceased had sustained a fracture of the thigh, until informed of it by Mr. Wise. Mr. Robert Stanton Wise, the surgeon referred to stated, that hearing of the accident, witness called on the deceased, when he found his left thigh considerably swollen, and broken about the middle (the fracture being a simple one) and he had sustained various other injuries on the leg and body, but there was no external wound on the thigh. The witness placed the limb in a proper position, and ordered the patient to be kept quiet. Witness visited the patient on Friday morning, the 23rd instant. In reply to a question from the coroner, enquiring why Mr. Wise had not visited his patient on Thursday, he explained that he did not consider it necessary and thought him in no immediate danger. Mr. Wise went on to state, that on attending on Friday morning at the house of the patient, with splints, bandages, &c., he was informed by one of the farmers of the parish, that there had been a meeting of the parish that morning, and that they had determined to place the patient under the "Bone-setter." Hannah Coleman, on stating that Mr. Matthews, the "Bone-setter," first saw the patient on Saturday, the 24th of December, and he saw him almost daily until his death; he directed the limb to be poulticed. A wound first appeared on the front of the thigh on Sunday, the 25th, and the bone first protruded through the wound on Tuesday, the 27th; the patient gradually sunk, and died on Thursday evening, the 29th. After Mr. Wise had, in such a manner, been informed that the parish had employed the bone-setter, he retired, and did not again attend. In answer to questions from the coroner, as to the cause of death, Mr. Wise, judging from what he had seen and heard, distinctly stated the man's death was occasioned by the fall from the window, accelerated by the simple fracture being converted into a compound fracture, from the want of proper surgical treatment and attendance, and which would not have been the case had he been under the care of a regularly educated and qualified surgeon. The jury, after a brief charge from the coroner, returned a verdict of Accidental Death, (a very convenient verdict!—*It appears that the bone-setter occupies his position by hereditary right, on the maternal side, his mother, Susan Matthews, having* acquired *a very flattering distinction in the treatment of broken bones.—(and the reception of broken victuals?)—long before her remarkable successful son had stepped into the inheritance. But what shall we say of the "farmers," the "committee," the parochial functionaries, and, we may reasonably suppose, the poor-law guardians, who, by a deliberate vote, placed this unfortunate patient under an illiterate and singularly stupid quack, inviting him—a mere rustic—from his agricultural labours to murder this wretched stipendiary of theirs. Within their own knowledge there were several dislocations of the hip and shoulder going about the parish for years, unreduced, through this fellow's intrepid ignorance, and yet they ordered him another victim! The commissioners cannot, of course, have had their attention directed to this very wicked violation of their recently-published orders. The verdict was what* might have *been expected in a neighbourhood so highly enlightened*—accidental death—*which is only true, or nearly true, in the supposition that the jury meant that the death was caused by the* "accident" *of the guardians choosing a quack surgeon for their pauper's benefit!*

THE MEDICAL TIMES.

Saturday, January 21, 1843.

Aut bene aut nulla lege.

At a time when the best, and in *some* circumstances, perhaps, the *only* barrier against the misleadings of interest or revenge—faith in the sanctions of a revealed religion—is being undermined, or thrown down in the minds of so many eager and anxiously-striving individuals, the office of Coroner, which we were considering last week, presents itself to us as one of immeasurable importance. The history of Rome, under her Emperors—when Paganism, from being the disbelieved of philosophers, had become the laughing-stock of the multitude—the description of the same city under the Borgias, when every man of influence was in practice what their contemporary and famed instructor, Machiavelli, was in theory—and the assize intelligence of our own country, in our own days, which reveal so many of the *more* clumsy attempts of our poorer countrymen to rid themselves, by poison, of some troublesome or hated obstacle to better fortune,—all these speak with fearful import of what some specimens of humanity are capable of doing under certain circumstances of temptation—and point, with no unmeaning finger, to the wisdom of Society's giving to their criminal intents the smallest possible fragment of probable impunity. The more watchful the vigilance, and the more successful the justice of the law, the greater, of course, will be the security, and the higher that best of civic blessings—the

confidence of the individual: and it is no mean boast of the distinguishing wisdom of our ancestors, that, at a comparatively dark era, they established throughout the kingdom, a magistracy whose almost exclusive functions being the investigation of sudden or suspicious death, made unpunished murder almost impossible. Noble however as is essentially this truly venerable institution—effective as was its operation at its origin—perfect as it should be in this day of improved legislation, when, for a thousand reasons, its best utilities are infinitely more required, we are yet obliged to declare, in the fullest conviction of our mind, that, in its present condition and working, it is little better than a costly national nuisance. Which of our readers has not, in perusing or watching the proceedings of our innumerable inquests, asked himself, with us, the *cui bono* of all the bustle, loss of time, and expenditure of money, ending every day in those most lame and impotent conclusions,—"Accidental Death," "Found Drowned," "Died by Apoplexy," or, by "the Visitation of God,"—conclusions which, if true, are truisms that needed no jury's decision, and if false, are crime-hiders. A carpenter falls from a scaffold, and dies—a carter tumbles from his shaft, and is killed—a sailor is found washed on the shore, in the last stage of decomposition—a young lady's dress catches fire, and she is burnt to death—these are the common subject-matters of our Coroners' expensive Inquests; and what is there in them, or in any circumstance connected with them, to call for so absolute a waste of men's money, that cannot be spared,—and of men's time, that cannot be recalled? Let us grant th at without some care,crimes may become confounded with accidents,—nay, let us admit that, if there were no other way of avoiding such a misfortune, the prevention of one such act of confusion would justify ten thousand otherwise fruitless acts: but, first, what crime, in recent times, have a Coroner and Jury detected, that was not detected beford their sitting? Paying the greatest attention to the subject, we yet remember no one case where anything has been done for detecting crime with them, which would not have been done quite as effectually without them. We can far more easily imagine suspicion lulled, and enquiry stifled, by the usual and stereotyped verdicts so flippantly given, in general, by ignorant juries—and so welcomely received by impatient Coroners. Secondly, there *are* other means,—less troublesome, less expensive, and equally sure means,—of dealing with such casualties. Let the medical man attending the case, be required to send, to the nearest magistrate, a written statement of the nature of the accident, with the other circumstances of the death; and let it rest with the magistrate to say whether the case calls for the further investigation of a Coroner and his jury. Of course, this discretionary power might be variously modified and restricted,so as to remedy,if not exclude, abuse. How many hours, by a simple plan of this sort, would be annually spared to men, to whom the time wasted in an inquest-room, would be gold in their business, or happiness in their homes? How much expense would be spared to cities and counties? And what a boon would it be to the character of our judicature, to have the country rid of the useless, the burdensome, the ridiculous caricature on judicial enquiries, commonly presented by our Coroners,with their dozen good men and true—enquiring about what was plain as light at noon-day, and announcing, after great trouble and expense, what everybody knew before!

But while Coroners' juries, under present arrangements, are thus so ridiculously active, so uselessly busy, in most cases of accident; they are scarcely more efficient in those cases of maltreatment or murder, the detection of which is the main object of their institution. Where have we a guarantee that a "sudden death" is the result of "heart disease," or "apoplexy," or a "visitation of God," when no autopsy takes place? What can the hasty—the *timid*, the *partial glance* at the corpse, effect in the way of giving information to a non-medical Coroner and a half-instructed jury? We say deliberately, that the present system of holding inquests is utterly useless in every case where the perpetration of crime has not been of the clumsiest possible character. It can, indeed, only be tolerated in the supposition thst the law has no wish to discover or terrify crafty and adroit criminals—for it excludes the possibility of detection in every case where the wrong-doing has not been of the clumsiest description. But the object of the inquest is at once to deter and to punish—to make detection as certain as crime, and by making *right* the interest,and *wrong* the ruin of individuals, maintain their safety and preserve the confidence of society. Now we are bold to affirm that nothing but a *post-mortem* examination, including an analysis of the contents of the stomach in every case of sudden, as distinguished from accidental death, can secure in full integrity the objects of the Coroner's Inquest. Any thing short of this is, but a stifling of enquiry and a covering of crime under the very mantle of the law. Of course there would, with the searching scrutiny we recommend, be thousands of cases where nothing would be discovered but the operation of natural causes—but the scrutiny would not, therefore, in any of these cases be useless. Its uniform enforcement would spare the feelings of the survivors that wound so frequently dealt by the present irregular and capricious mode of investigation; no one would feel that because the remains of his deceased friend were examined, he was himself, *therefore*, suspected; the invidiousness of selection would be removed. Secondly,science might be largely benefitted.—We know of few things more required in the Profession, or which would prove of more value to the living, than an accurate knowledge of the statistics of the causes of sudden death. The *prevention* of such distressing visitations is the only service in the power of our Profession—and how prevent what we cannot foresee—or foresee what is not within the sphere of our experience? In truth, we have only to suppose careful reports of every *post mortem* examination, sent to a central office (say, the Registrar-General's), where the cases would be properly classified, and their results made known periodically,and who does not see that the advantage to science of such an arrangement, would, in itself, be worth the whole expenditure incurred in sustaining the improved mode of holding inquests?

But the great, the paramount advantage, would be the safety it would give, and the sense of safety it would inspire. The detection of crime, if not certain, would be made sufficiently probable to make its perpetration an egregious *impolicy*; the only argument that can tell with effect on the unprincipled. As was proved by Louis the Twelfth's astrologer-physician, who had his life saved and attended to, because his master's life was thought to be dependant on it, we are never safer than when others' interests are identified in our safety.

We call, then, for a Reform in our Coronership. Its present administration is one of the most trying spectacles a man of sense can gaze on. Changed from what it was at its origin, it is only the less fitted for the changed circumstances of the time. The ends of its existence are unanswered: it is neither detective nor preventive of crime. Where it is useless it is active; where it is required it is inert—in everything imperfect. We ask a change. We ask, that whenever jurymen are summoned, and constables and coroners are paid, that all this shall be done to some purpose. Once met, let them not separate till they have put the cause of death beyond dispute. If we may trust blindly, in all cases, to each others' virtue—let us have *no* inquests; if we cannot, let coroners' inquests give us the security they were intended, and are able to give. If this be not done, a thousand times better to leave every case of sudden death to the public's care—to the common sense of the neighbours. Crime, if it will ooze out under the present system, will assuredly ooze out without it. Without the coroner there would be suspicions; without him accusations; without him, charges before magistrates willing to act in any case justifying interference.

Thus superseded in its present mode of action, thus ridiculously useless, common sense impatiently asks that the office should be at once either amended or abolished? We say AMEND IT.

NEW MEDICAL INSTRUMENT.—The Echometer of Dr. Aldis is, we think, well adapted for the purpose of percussion. It may be seen at Savigny's, &c. It is not only ingenious but likely to prove useful especially to young auscultators.

REVIEW.

The Physical Diagnosis of Diseases of the Lungs. By Walter Hayle Walshe, M.D. Professor of Pathological Anatomy in University College, London; Physician to the Hospital for Consumption and Diseases of the Chest; Member of the Medical Society of Observation of Paris, &c.

We can recommend this volume as a useful guide on almost every point connected with the physical diagnosis of the diseases of the respiratory organs. Our author has studied his subject with great care, and given in the small volume before us the result of his observations in a very condensed form; yet so as they may be consulted with pleasure and profit, both in the closet, and at the bed-side of the patient. The book displays, in a very striking manner, the resources of art in the detection and distinguishing of respiratory diseases. We can remember the time when the physical signs of such diseases were almost entirely overlooked. The medical man, at the time to which we refer, was satisfied with an examination of the pulse, the breathing, the expectoration, the degree of pain, and the quantity and quality of the various evacuations. His diagnosis regarding even the seat and nature of respiratory affections were, consequently, seldom correct, and never correct to the minutest particulars. By attending to the physical signs, however, of these diseases, a door is opened to a more thorough knowledge, and a more philosophical treatment of all such affections. The methods at present employed in observing the physical signs of internal diseases are, according to our author, of seven kinds, viz.;—I. *Inspection;* II. *Application of the Hand;* III. *Mensuration;* IV. *Percussion;* V. *Auscultation;* VI. *Succussion;* VII. *Determination of the Situation of surrounding Parts and Organs.* The subject generally of which our author treats, is arranged into three parts. In part first, a description is given of the above seven methods of physical diagnosis. Part second consists of two sections, the first of which is thrown into a tabular form, and places before us a notification of the causes and seats of the various physical signs as well as the names of the diseases in which the signs are observed, and in the second section, we have a well digested synopsis of the physical signs of the diseases appertaining exclusively to the lungs. The third part of the work consists of a critical commentary on points both of theory and practice, connected with his subject. We shall make a few remarks on each of these sub-divisions of the work; and first of the methods employed in the detection of internal diseases. We have no means of investigating the physical signs of disease but by the senses; and why should we restrict the investigation to any one sense:—to the eye or to the sense of touch? Wherever abnormal *sounds* exist, the ear is the proper organ, obviously, for appreciating these, and where peculiarities of *smell* or *taste* exist, or are evolved during disease, it is as clear that the senses of smell and taste are the only organs that can be depended upon in the investigation of such peculiarities. By the proper application and training of three of the senses, medical science has already been much benefitted; and were the senses of smell and taste also pressed into the service, it is probable that still greater triumphs would be made. We ourselves have long been in the practice of distinguishing the proper gonorrheal discharge from the other discharges of the urethra by the sense of smell. We have also frequently been able to predict, previous to examination with the hand, the existence of cancer of the uterus, by the peculiar odour of the secretion, and all know how easy it is to discover the existence of diabetes mellitus by the sense of taste alone. To the methods then adduced by our author, we would add those of OLFACTION and GUSTATION, and would strongly recommend to our readers and contributers to enter without delay upon the investigation of this hitherto unexplored field of medical research. Our author has given many short but excellent directions for the practical application of the different methods at present in use, and shows no overweening partiality for any one method. It is not all auscultation with him, but while he concedes to each method its true value and place, he inculcates the propriety of employing all the methods, when this is practicable, as one method tends to confirm or rectify the conclusions drawn from another. Our limits will not permit us to follow our author more closely in this part of his subject. The following directions in the use of the stethoscope may be given, however, as a favourable specimen of our author's style and manner of treating this part of his subject.

In performing auscultation several precautions, affecting the observer and the observed, are to be attended to. 1.—The chest should be uncovered, or, if such exposure be inadmissible, as thin a layer of clothes as possible allowed to remain between its surface and the stethoscope. 2.—All friction between the stethoscope and the patient's or the observer's clothes should be carefully prevented. 3.—The position of the patient should be regulated in the same manner as for the performance of inspection; an unconstrained state of the muscles being particularly necessary, in order to ensure free entry of air into the lungs. The sitting posture is, everything considered, the most conducive to perfect investigation, provided the chair employed have a tolerably high seat. While the front of the chest is submitted to examination, the patient should sit not exactly erect, but with the trunk sloping a little backwards, the arms being allowed to hang loosely at the sides. When the observer proceeds to examine the lateral regions, the patient may be directed to clasp his hands on the top of the head, in other respects, retaining his former posture; and lastly, when the posterior regions are examined, sit upon the chair astraddle, with his back to the observer, his arms crossed, and his head bent somewhat forwards. *Mutatis mutandis*, the same precautions are to be taken when the patient stands, lies, or sits up in bed.—4. It is of importance to apply the stethoscope firmly but not forcibly to the surface: too slight or too strong pressure interferes with the accurate transmission, or alters the character, of the sounds. Besides, persons with tender skins, or in a state of extreme emaciation, cannot endure rough application of the instrument.—5. Great care must be takan to ensure accuracy of contact between the skin and every point of the circumference of the end of the stethoscope; as a necessary condition for this, the instrument must be held perpendicularly to the surface.—6. The position of the observer should be free from all constraint; he should apply his ear to the stethoscope in the same manner as the instrument to the chest; concentrate his attention upon the sound examined; and, unless a most experienced auscultator, proceed (as far as is compatible with the patient's safety) slowly with his examination.'—The motto *festina lente*, is a good one for the beginner in the study of physical diagnosis. 7. It is advisable to commence the auscultation of patients, while they breathe in the manner to which they are naturally inclined; because it is important to ascertain the precise natural condition of the respiration, and besides, directions for the regulation of the act often puzzle. Some individuals, however, absolutely require guidance, as the moment they perceive the instrument applied to their chest, they throw the muscles of the trunk into violent and unnatural motions, which of course materially impede the entry of air into the lungs. The readiest way of making such persons breathe in an efficient manner is, to perform several quick *noiseless* respirations before them, and desire them to imitate these. This method will, however, occasionally fail; our object may then be gained by desiring them to sigh, to speak, or to cough. The deep inspiration required for the performance of these acts, will at once enable the observer to ascertain the condition of the murmurs; and indeed there are many states of the lung in which, quite irrespectively of the patient's manner of breathing, much information may be gained by a single cough. 8. Certain sounds produced in the pharynx are liable to be confounded with the true pulmonary sounds of respiration; the error may be avoided by directing the patient to open the mouth, if it have been previously shut, and *vice versa.* If the sounds heard have their seat in the lungs, they will suffer no change from this opening or closing of the mouth; if in the pharynx, they will be more or less modified in character. 9. Both sides of the chest must be submitted to precisely in the same way,—as already explained in reference to percussion.—10. Auscultation should never be considered complete until the entire chest has been examined; it is often in some or other situation, where the symptoms would least have taught us to look for disease, that auscultation proves its existence.—11. In acute affections, auscultation should be repeated twice, at least, in the twenty-four hours.

As the first part of our author's treatise is confined to an explanation of the methods employed in discovering the physical signs of the diseases of the respiratory organs in the second part, the signs themselves naturally come to be investigated, and from the tabular form which our author has here adopted, a vast amount of information is condensed into a small space. The signs discoverable by the seven methods of investigation, above referred to, are given in succession, and the table is so constructed as to give under each method,—1st., the name of the sign; 2nd, the physical cause of the sign; 3rd, the ordinary seat of the sign, and 4th, the diseases in which the sign is observable. Besides the valuable tabular view above referred to, this part of the work includes a synopsis of the diseases of the *lungs*, in which the signs of the diseases of this most important organ are given in a more connected and systematic manner than a tabular view could impart. As a favourable specimen, we select the description of pneumonia, which will reward the attentive study of our readers.

ACUTE PNEUMONIA.

a. *Of a considerable Mass of the Lung.*

The question whether the existence of pneumonic inflammation can be detected by physical signs, before the stage of engorgement has supervened, and if so, what those signs are, is elsewhere examined; the three admitted stages only of the disease, together with the phenomena of resolution, will be considered here.

First Stage—Engorgement.

Inspection. Diminution of motions of expansion and elevation (if severe pain be present.)

Percussion. Sound less clear than natural, resistance slightly increased.

Auscultation. Respiratory murmurs weak, suppressed or masked by rhonchus in the affected parts; exaggerated in those at some distance from it and in the opposite lung; true crepitant rhonchus; vocal resonance somewhat increased; some degree of bronchial cough.

Second Stage—Red Hepatization.

Inspection.—Expansion of the affected side; bulging of the infra-clavicular sub-region in pneumonia of the upper lobe; diminution of the motions of expansion and elevation; motion of expansion diminished in proportion to that of elevation.

Application of the Hand.—Increased vocal and tussive vibration; pulsatile vibration?

Mensuration.—Increase in the semicircular measurement of the side; deficient increase in semicircular width in inspiration.

Percussion.—Sound diminished in clearness, until completely dull, decreased in duration, sense of resistance very much increased, under certain

circumstances of locality of the inflammation, character of the sound tubular.

Auscultation.—Respiration bronchial, or blowing, of either the diffused or tubular varieties; weak in the immediate vicinity of the inflamed part (Grisolle;) exaggerated in more distant parts and in opposite lung; bronchophony, or, under certain circumstances, broncho-ægophony; bronchial cough; intensity of transmission of heart's sounds increased.

Third Stage.—Grey Hepatization, or Interstitial Suppuration.

The signs in this stage are the same as in the preceding one; facts observed of late years tend to render it probable that the occurrence of a peculiar form of mucous rhoncus, in addition to the signs of the second, may announce the supervention of the third, stage.

Stage of Resolution.

Inspection.—Retraction or depression of the affected side.

Mensuration.—Diminution of semicircular width.

Percussion.—Dulness of sound less marked than previously, and gradually decreasing in amount, with a return of the natural elasticity; the alteration of sound is long, however, in being perfectly removed.

Auscultation.—Respiratory murmurs weak and harsh; redux crepitant, or sub-crepitant rhonchus; still some bronchophony gradually disappearing.

b. *Lobular Pneumonia.*

[The pneumonia of infancy, and in a particular form that preceding the formation of secondary abscesses in the lungs from the circulation of pus with the blood.]

Inspection, Application of the Hand, Mensuration, and Percussion, give merely negative results in true lobular pneumonia.

Auscultation.—Respiration exaggerated in some points; harsh, bronchial, or even slightly blowing sometimes in others; occasionally a few cracklings of an imperfect crepitant rhonchus; in children, the dry or humid rhonchi of bronchitis.

Chronic Consolidation of the Lung.

Chronic Pneumonia.

Inspection.—Depression, especially visible in the infra-clavicular region; diminished freedom of costal movements, while the general motions are not perceptibly affected.

Application of the Hand.—Increased vocal and tussive vibration.

Mensuration.—Antero-posterior diameter in the infra-clavicular region diminished; semi-circular measurement of the side sometimes diminished.

Percussion.—Sound diminished in clearness and duration, resistance increased; tendency to the wooden or to the tubular character sometimes manifested.

Auscultation.—Respiratory murmurs weak in the affected spot, harsh, bronchial, or having the diffused blowing character to a slight amount; exaggerated in the neighbouring parts; bronchophony; bronchial cough; heart's sounds transmitted with undue intensity; irregular subcrepitant rhonchus in small quantity, occasionally, at the very earliest period of the lapse of the disease into the chronic state.

The third or last sub-division of the work before us consists of explanatory and critical notes, touching the various points of doctrine and practice referred to in the first and second parts of the work. We consider this a very valuable sub-division of the work, but being thrown at the end of the volume, it is stripped of some of its interest. We think the preceding parts of the volume would have been rendered less dry and heavy, had the notes been brought in juxta position with the subjects to which they refer. They would be more likely to be read than when thrown together, without any bond of union, save that of the subject to which they refer. Be this as it may, the notes themselves are valuable, and show that our author has not only studied the subject in all its details, but likewise acquired acquaintance with the opinions of all the authorities upon the subject of which he treats. Our author is neither a slavish follower, nor a blind adviser of the opinions of others, and with the liberality and good feeling characteristic of the ingenuous mind, he uniformly displays judgment and discrimination. In compiling this work, Dr. Walsh has done the profession some service. We wish him the success which this work proves him to deserve.

DEATH FROM STARVATION.

APOPLEXY.—By J. Nottingham, Esq., Surgeon.

I was requested this morning, Jan. 12th 1843 to examine the body of a poor woman, aged 33, the mother of a large family, who died suddenly on Tuesday evening. She was the wife of a labourer, who, during the last three months has earned little or nothing; and for the same length of time, himself, his wife, and six children, as might easily be supposed, have had exceedingly low fare;—the youngest child is twenty-two months old, and this child the mother suckled up to the time of her death—although she herself, to use the words of one of her neighbours, "lived only on potatoes and now and then a half-pennyworth of coffee, which she mixed with a little boiling water, and then drank it."

Formerly the poor woman enjoyed good health; she was low in stature, active and industrious in her habits, and anxious for the education and welfare of her children; of late, however, she had had occasional attacks of fainting, and had complained of sick-headaches, but always evinced a disposition to bear up against every suffering, difficulty, and distress.

On Tuesday evening she carried two buckets of slop, one in each hand, to feed a couple of pigs, by the future sale of which she hoped to obtain some little gain which might help her with her family during the remainder of the winter:—arriving at the place to which she carried this weight—she dropped down dead.

On examination, we found the different organs in the chest and belly in a tolerably healthy state, the stomach was empty, save a few remains of undigested potato, and the bowels much distended by wind; having examined these parts with care, we proceeded to open the head.

The top of the skull being removed, the membranes covering the brain were examined, and found healthy; but through their semi-transparent layers on the right side, we saw blood which was evidently out of its proper vessels, and upon the surface of the brain.

The membranes were cut open, and the brain taken out,—when the right hemisphere was found to be what we may call broken at a point corresponding to the middle of the temples, and from this break a clot of blood projected, which was traced into the body of the right lateral ventricle of the brain; it would perhaps have weighed two ounces, it was of a pear-shape, the smaller end extending into the hollow or body of the ventricle:—This was the only clot of blood met with, but the parts of the brain projecting into the ventricle were softer than natural,—as was also all that part of the cerebral mass corresponding to the surface of the effused blood.

It need not be said that this was a case of death from apoplexy,—but it would be interesting to trace the operation of causes which are at work in such cases as this.

Had the protracted suckling of the child anything to do with the fatal event, or might we say that it was the result of starvation alone?—Doubtless, we should be correct in combining the effects of the two, for being, more or less, alike in their effect, we may easily understand their common tendency.

All mental operations are carried on with more or less pain and difficulty, when the system is suffering from extreme want of food, which is one proof that the great organ of the mind is especially dependent on an adequate nutrition of the body;—and the blood vessels of the brain, like every other part of the human organisation, lose more or less of their tone and resistance when affected by causes such as those to which we now allude;—thus weakened and irritable it is not surprising that when any unusual effort is made such as the carrying of heavy weights or whatever else it may be,—they should give way under the sudden shock of an increased circulation, and thus put an end to a life of misery by a death which that misery has caused. We can hardly consider that Horace told the truth in his ode,—"Ad L. Sextium Consularem."

"Pallida mors æquo pulsat pede pauperum tabernas
Regumque turres.

for death in his travels turns often to the abode of the poor, for reasons which do not take him to the dwellings of the rich, although to the latter, another and an opposite class of causes may bring him, thus helping to straighten the beam of the balance.

About three years ago, I met with a case of sanguineous apoplexy in a little girl, eleven years of age, under somewhat similar circumstances. After several weeks of exceedingly low diet, she one day died suddenly while grinding coffee in the mill in a grocer's shop.—In another instance—which I examined a few years ago—a very poor woman died suddenly, being three months advanced in pregnancy;—she had for some time been in a state of extreme wretchedness, but in her case there was a considerable quantity of serous effusion into the ventricles of the brain, but no extravasated blood.

This paper cannot be farther extended by pathological details,—but moral considerations of the highest importance belong to the history of death, when its cause is not such as ought to occur in the ordinary course of nature. This is not the first, or the second, or the third case of death from starvation which I have had occasion to attend to, and it has often occurred to me that medical men might often be well employed in observing and reporting on the physical condition of the poor in those almost inaccessible districts and streets in many towns which are so little visited—saving by the clergy and by medical practitioners—for it might be said, without fear of contradiction, that the richer inhabitants of most of our large and populous cities, have little notion of the extreme smallness of the means with which their poorer neighbours—to use a vulgar, but expressive phrase—keep body and soul together.

Such cases we have here noticed, stand in good contrast with all that belongs to the "Merry homes of England;" for although there be much in the beauty of England's excellency, which might have vied with Tyre or Babylon of old—she certainly is loaded in the opposite extreme, with an amount of wretchedness,—perhaps greater than that which is observed in any other, equally civilised, country. The why, the wherefore, and the remedy, are neither so easily discovered, nor so readily applied, as the philanthropist, or the moralist might desire,—but this appears to me to be true,—that an investigation into the influences exerted by peculiar physical conditions, on the moral movements of the poorer classes of the community, would amply repay the labour of the most pains-taking inquiry, but could only be made by men who are, at the same time, good physiological and moral observers; and that physiological and moral science are intimately connected, and should be studied and pursued

together,—we will not take pains to prove, but will close this communication with a quotation,—perhaps somewhat pedantic, from the Roman philosopher, who was not inattentive to such matters

Omnes artes quæ ad humanitatem pertinent habent quoddam commune vinculum, et quasi cognitione quadam inter se continentur.

AGRICULTURAL CHEMISTRY.

Caution to Practical Chemists.

The agriculturists are at length aroused, over the United Kingdom, to the important assistance they may derive from chemistry, and much as we respect the intelligent and respectable of this class, we can hardly forbear suspecting, that the generous reliance of our men of science is, at present, somewhat in danger of being but scurvily responded to on this side the Tweed, at least. But we shall allow the reader to judge for himself.

At a meeting of subscribers to the fund for obtaining the services of an agricultural chemist, held at Edinburgh, on the 9th current, Mr. Milne, younger, of Milngraden, Advocate, is reported (see *Edinburgh Evening Courant*) to have spoken to the following effect:—

The report stated, that the Interim Committee had circulated in the different counties, copies of the minutes relative to the appointment of an agricultural chemist. The Directors of the Highland Society had offered not only to afford the subscribers, and their committees, accommodation in their Museum, but to contribute £50 yearly, for five years, on condition, that £350 should be forthcoming from other sources, and among other *items*, it was proposed, that the chemist should be entitled to charge, for analyses, sums varying from *One Shilling to Seven Shillings and Sixpence!* As no definite mention is made of the amount of salary to be enjoyed by the forementioned chemist, we are thus so far left in the dark, as to whether the salary, and the fees for analyses, are to be in corresponding proportion.

Dr. M'Donald said, if the amount of salary was reduced, and the fees for analyses raised, (as became the dignity of the science,) the meeting would succeed in getting a man eminently qualified. The idea of soil being analysed for a shilling, or for seven shillings and sixpence was one which, he was sure, no one would have suggested that had witnessed analyses, and to expect that a man would, for such a remuneration, give the result of labors, which (when minute?) occupied him ten days, or a fortnight, was perfectly absurd.

A gentleman stated, that he had been informed by chemical gentlemen, that thirty or forty analyses might be carried on at the same time, which would lessen the expense and trouble to the operator.

We are inclined to believe, with Dr. M'Donald, that neither the first speaker, who, by the way, belongs to a learned profession, or the gentleman who followed him, can have witnessed analyses, saving, perhaps, in their rudest mechanical form, as practised by itinerent lecturers of inferior grade. The original report, as given by the first speaker, savours too much, unless we mistake, of *driving a bargain*. Let, therefore, chemists beware! Overstocked, as medicine and its collateral branches are, she has it, at least, in her power to assert her dignity. If she fail in this, she will amply deserve the crumbs, which ignorance and cupidity may have laid aside as her portion.

AMICUS.

[illegible],
January 11th, 1843.

THE MEDICAL SOCIETY OF BORDEAUX.

(To the Editor of the "Medical Times.")

Sir,—I have been requested to forward to you the accompanying "Programme" from the Medical Society of Bordeaux, who desire to make known their intention of awarding a gold medal of the value of 600f. (£24,) to the author of the best reply to the following question:—

"What is the influence of Penitentiary systems, and of solitary confinement in particular, on the health of prisoners, both in a physical and moral point of view?"

Papers to be written in the Latin, French, Italian, English, or German language, and sent (post free) to the Secretary, Mons. Burguet, No. 67, Rue Fondandege, Bordeaux, before the 15th June, 1843.

I am, Sir,
Your obedient Servant,
C. H. HOLLAND, M.D.

16, Queen Street, May-fair,
Jan. 12, 1843.

PHRENOLOGICAL SOCIETY.

On Monday the above society held a meeting at Exeter Hall, which was most numerously attended. We observed there many gentlemen of science, and the assembly was honoured with the presence of many elegantly attired ladies, who evinced great interest in the proceedings of the evening. Mr. Ewens commenced by detailing a series of experiments in mesmerophrenology, which he had performed upon a highly respectable married lady, a patient of his (under his care), and which entirely confirmed similar preceding experiments, and showed in a clear and beautiful manner the curious and interesting phenomena of mesmerophrenology. He mesmerized her in a few minutes; on exciting the organs, precisely the same results occurred as detailed in former instances, but in still fuller development. When philoprogenitiveness was excited she said she was nursing infants, and assumed a corresponding attitude; upon destructiveness being pointed at, she threw them away, declaring "she could kill the little devils." Benevolence being touched she appeared to recognise many old friends; and combativeness following she began to square a la Cribb; when music was touched she sung "O woodman spare that tree!" In conscientiousness she appeared absorbed in reflection; and when changed to veneration, she placed herself in a more beautiful posture of prayer than was ever simulated on the stage. At the end of the sitting she said she had enjoyed two hours tranquil rest; she had no recollection of what had occurred—she was quite ignorant that any experiments had been performed on her, and has not yet been told of the circumstance, the operator wishing to avoid all possibility for the least suspicion of deceit or collusion. The second sitting elicited the same results; when music was excited she regretted she could not sing well but "her husband, she said, intended to send her to Exeter Hall to learn the Hullah-baloo!" The third sitting was much the same. The organs of size, colour, ideality, &c., when mesmerized, brought up appropriate images in connection one with another, the transition being as quick as the movement of the operator's hand. There appeared to be little or no sympathy between the operator and patient. The report which was highly interesting and creditable to its ingenious author, and which we regret we cannot give at greater length, was corroborated by Mr. Josephs, who witnessed the experiments.

Mr. Atkinson, F.G.S. delivered an address on the history of phrenology more particularly of mesmero-phrenology, remarking that in his opinion the new discovery would rival, if not eclipse those of the immortal Harvey, that *they* did most honour to Harvey's memory, who, instead of reviling what they did not, or would not understand, and following the example of his ignoble compeers, in heaping obloquy on what was above their comprehension, devoted their time and serious attention to the investigation of nature, the unerring guide to truth. After some conversation between Dr Elliotson, Mr. Ewens, Mr. Symes, and others, the president observed upon the interesting topics in the report of Mr. Ewens. He ridiculed the futile opposition made against the science by many members of his profession; and said, as no man is a prophet in his own country, time alone would shew that in this as in other instances, magna est veritas et prevalebit. The Duke of Marlborough informed him—the president,—in a letter from Ireland that whilst at the Marquis of Ely's seat in that country, and strolling out in the morning, he came upon a very ferocious dog, chained in a farm-yard. His grace durst not approach this brute, but standing at a respectful distance, mesmerized him, and going up actually embraced the sleeping brute. The dog remained in the sleep for thirty minutes.

The meeting separated much instructed and amused.

ENLARGED TONSILS AFFECTING THE VOICE AND PRODUCING DEAFNESS.

[illegible] WILLIAM THORNTON, Army Surgeon, M.R.C.L.S.

A young gentleman, residing in London, of strumous constitution, nine years of age, was brought to me, delicate and pale. He complained of distressing symptoms, such as confirmed tonsillary disease can alone produce. His hearing defective, the voice thick and nasal, and the articulation so indistinct, as to be almost unintelligible to strangers. The difficulty of swallowing, induced his friends to consult me. Upon examination of the fauces, I found that the tonsils were very much enlarged, were hard and scabrous to the touch, and extending so far towards each other as to be within a line or two of touching. The *mucous membrane* in a state of chronic inflammation. I prescribed friction of the ointment of Iodide of mercury upon the external fauces, and small doses of Iodide of potassium dissolved in dect. sarsæ. concent., internally, also a rhubarb aperient, administered twice a week. A tonic powder, composed of carbonate of soda, rhubarb, and columba, given alternately, with the hydriodate of *potash*. The topical treatment to the tonsils were argentum Nitratum applied by a pencil-brush three times a week. In the course of a week, the *tonsils* felt quite soft, and began to diminish very rapidly, they were reduced to their natural size. I was anxious to give these remedies a fair trial before I had recourse to *excision*. The effects of the combined treatment were most gratifying, and all the impeded functions were gradually restored, and the general health improved and *cured* in the course of a month. The persevering medical treatment and *dietetic* restrictions are of paramount importance in the management of enlarged tonsils, especially when they occur in youth. When these remedies fail, it is only then necessary to resort to the operation which is safe and painless.

ON OVARIAN EXTIRPATION.

In answer to W. Jeaffreson, Esq., Surgeon, Framlingham, Suffolk.

Sir,—In answer to the observations made by you in the Medical Times of last week, I have to acknowledge, that when writing the articles in question, I was actively engaged in the treatment of the cases; consequently, in my limited time for search, some recorded cases may have escaped notice: indeed, I have since been made aware of this, through the kindness of Professor Simpson, and shall avail myself of every information, to place both operations on their proper footing, statistically, when I publish my additional cases. *I have also been made aware of unsuccessful cases, of the minor operation, which have not been recorded.*

I can assure you, Sir, I have no wish to depreciate the merits of the operation, by the minor incision. On the contrary, I consider the medical profession much indebted to you, for the novelty and boldness of your operation,

certainly a great improvement at the time, but as the profession of medicine, (like other sciences) is progressing, any endeavours to advance it should not be misconstrued.

My opinion, respecting the minor incision, remains the same, as the cases in which it would be advisable, are so extremely rare, viz: *a large single cyst, perfectly free from any adhesions, except the pedicle.* But the difficulty of diagnosing to such nicety!—even the dragging of the pedicle, a circumstance which cannot be avoided, would be a serious objection. I believe, many might be induced to prefer your operation, from its apparently less formidable character; but if any adhesions existed, they would find themselves under a difficulty *from which the larger incision alone could extricate them;* and experience tells us, that few and far between are the cases without adhesions (See Dr. Seymour's Work.)

You *admit the necessity of enlarging the incision, when adhesions exist.* I think it far safer to make the incision large enough at first, to prevent any serious displacement, or injury, to the viscera by the dragging of adhesions.

Since the publication of my cases, I have been highly honoured by the favourable opinions of very many men of the highest standing in the profession, relative to the operation as practised by me.

I shall be obliged to you, or any other gentlemen, who can refer me to cases, successful or otherwise, whether published or not, that I may be able to give the operations their proper standing when compared with each other.

I have the honour to be, Sir,
Yours very respectfully,
CHAS. CLAY, M D

Piccadilly, Manchester, June 11 184

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PERISCOPE OF THE WEEK.

Causes of Sudden Death.—By a careful selection of statistical accounts from the foreign as well as British journals, we may, after a lapse of time, arrive at the means of making a tolerable approach to a calculation of the relative frequency of diseases. Of 26 sudden deaths occurring at Strasbourg, 1 was found on post-mortem examination, to be occasioned by cerebral hæmorrhage, and 1 by apoplexy; by cerebral congestion, 4; cerebral and pulmonary congestion, 1; hæmoptysis, 1; foreign bodies in the bronchi, 2; pulmonary congestion, 13; syncope, 1; perforation of the intestines, 2,—Total 26. We advise those interested in the progress of medical science to watch narrowly after similar statistical *facts.*

Treatment of Phthisis by Proto Ioduret of Iron. M. G. Boissiere, a pupil of M. Dupasquier at the Hotel Dieu, Lyons, has lately founded a memoir on 27 cases of phthisis, under the care of the last-named practitioner, and treated by the above medical agent. Of the 27 patients, 7 died before the remedy had had time to exhibit any very marked effect on the system, and only one case was discharged cured; though the improved condition of the remaining cases appeared striking enough to M. Boissiere to warrant him in declaring "that the proto-ioduret of iron is the most efficacious remedy to which the physician can resort in the cure of phthisis.' M. Boissiére has noted the symptoms produced on himself - a person in health—by the remedy. "Before taking the proto-ioduret" he says, "I examined the pulse carefully on three occasions, at intervals of ten minutes, and found that it beat regularly 75 times per minute. After a quarter of an hour from taking a dose of 25 drops of M Dupasquier's proto-ioduret (which differs materially from the inferior preparation formerly in use under that name) the pulse had risen to 8, and I felt some headache; after an hour the mouth was cool, and there was slight dryness in the throat; the pulse had now fallen to 80, but the headache remained." When the remedy is administered in small but gradually increased doses for eight or ten days, the sensations just noticed are felt in a permanent manner; after this the organs become accustomed to the irritation which is then little felt The mouth and pharynx may be the seat of burning pain with tumefaction of the mucous membrane, which is red and often covered by a small papular eruption; this state is often attended by loss of appetite, thirst, and a remarkable change in the sense of taste. In some cases mastication is completely prevented by the pain arising from the contact of food. This local inflammation is, however, rare; it occurred only four times in the 27 cases.—In one half of the cases, the patients suffered from nausea and vomiting on the first or second day of treatment, but seldom longer depending rather on irritation of the velum palati and uvula than of the stomach in general. The first impression of the ioduret on the digestive organs is slightly irritant; but tolerance of the remedy is soon established, and it then acts as a tonic.—The vascular excitement appears to be proportionate to the weakened condition of the patient.—In a fortnight or three weeks, the pulse becomes more full and strong, and less frequent; the heat of skin subsides, and the patient is better able to resist atmospheric changes than he had been The patient's countenance becomes slightly florid the muscles and flesh get firm, and in some cases symptoms of plethora set in, accompanied, sometimes, by signs of local congestion in the lungs, the head, &c. In three cases the remedy gave rise to an affection of the skin—viz., urticaria, eczema, and lichen. During the first days of the administration of the remedy, the dyspnœa and frequency of respiration are increased; but after the first or second week they gradually decrease, and finally disappear. The frequency of the respiratory act diminishes much more rapidly than the dyspnœa; the latter often remains when the frequency of the respiration has been re-

duced to its normal standard. Still the difficulty of breathing is always removed, if we are enabled to continue the remedy sufficiently long to dissipate the congestion and effusion which surround the tubercular deposits.—The ioduret sometimes determines slight discharge of blood from the lungs, during the first few days of its administration; but this rarely occurs, and when it does happen the hæmoptysis is slight, and disappears as soon as the tonic influence of the remedy is felt. In two patients admitted into M. Dupasquier's wards with hæmoptysis the hæmorrhage was promptly arrested by the ioduret; and this symptom was of much rarer occurrence in the wards of M. Dupasquier than amongst other patients who were not treated with the ioduret of iron. During the first few days of the administration of the ioduret, the cough is somewhat more frequent, the expectoration more abundant, but easier; on the fourth or fifth day these symptoms diminish in intensity. The quantity of matter expectorated is likewise considerably diminished; in a month it is often reduced by one-half, three-quarters, or even seven-eighths. In six of M. Dupasquier's cases, both the cough and expectoration disappeared entirely; in four the expectoration ceased after forty days; in the other two after the fifteenth day. The sputa, while diminishing in quantity became more viscid, and expectoration was accordingly more difficult; but they gradually lost their purulent character. M. Dupasquier has observed the pains peculiar to consumptive patients in the interscapular region or walls of the thorax, yield within three weeks or a month; but the ioduret of iron never seemed to have any influence on pleuritic pains, or on those seated in the walls of a cavern.—*Tubercles.*—The physical signs of the presence of tubercles in the pulmonary tissue are—bronchophony, intense and prolonged expiratory sound, bronchial souffle, roughness of the vesicular murmur, dulness on percussion, and thoracic *fremissement.* It is evident that if all these signs disappear completely after the administration of the ioduret of iron for a sufficient time, we are entitled to conclude that the tubercles have disappeared, and that diminished intensity or extent of the physical signs indicates a proportionate diminution of extent or intensity in the tubercular deposit. M. Boissiere says, " I have seen only six cases, in M. Dupasquier's wards, of crude tubercle, without caverns; in no case did I witness complete removal of all the signs above indicated, even on one side of the chest. In one case no diminution of the physical signs occurred; but in the other five I detected some remarkable changes. Thus, in two patients the expiratory sound and the bronchial souffle completely disappeared, and the respiratory murmur was restored to its natural state; the other signs had not disappeared, but they had diminished more than one half in one of the cases at the end of two months, and in the other at the end of fifteen days. In three cases the intensity of the bronchophony had diminished one half at least; and the dullness of sound and *fremissement* were equally diminished. I remarked that the diminution of the extent over which the physical signs were observable generally kept pace with the diminution of intensity, and that it always took place from below upwards, commencing at the limits between the diseased and healthy tissues, and being more rapid in the lung which was least affected."—*General Symptoms.*—The most important of these are the *gradual emaciation* and loss of appetite, the gradual loss of strength, night sweats, and the evening exacerbations. In three of the six cases of phthisis in its first stage, already noticed, the night sweats and evening fever were absent; in two of the remaining three cases the nocturnal perspirations persisted for three months, but during that time they gradually diminished, and are now scarcely perceptible; in the third case they disappeared entirely at the end of a fortnight. The ioduret of iron then exercises a beneficial influence on the cutaneous exhalation from phthisical patients in certain cases at least. But its influence on digestion and nutrition is much more evident. Every one of the patients (in a period varying from eight to fifty days) recovered their appetite: the weight over the epigastrium and febrile paroxysm during digestion ceased; the face lost its earthly hue, and assumed a good color; the emaciation, in some cases, ceased altogether; the softness and flaccidity of the flesh disappeared; and the muscular strength was restored. Several patients who had been admitted in such a degree of weakness as to be unable to stand upright or walk, were after some time enabled not only to walk about for half the day, but to take fatiguing exercise. M. Dupasquier's opinion is, that the ioduret of iron is most efficacious in the third period of phthisis, or, at least, that its action is then most evident, and more so in the second stage than in the first. Constitutional is much more susceptible of benefit from the ioduret of iron, than accidental phthisis. In three cases of the latter, M. Dupasquier saw no good effect result from the use of the remedy. The chief auxiliary medicines employed by M. Dupasquier, with the ioduret of iron, are, Hoffmann's elixir, bark and the bitters, effervescing draughts, opiates, some vegetable astringents, and the pectoral drinks commonly employed to allay the bronchial irritation. The regimen which he enjoins is almost exclusively animal; he makes the patients clothe themselves warmly, and take as much exercise as their strength will permit.

Inversion of the Uterus.—Dr. Humphreys Storer was in attendance upon a woman in labour, parturition taking place naturally. The cord was not touched, except to divide it, and remove the child. On putting his hand under the clothes to take away, as he supposed, the placenta, he found that he had hold of the uterus with the placenta attached. He removed the placenta and then returned the uterus without the slightest difficulty. There was a little hæmorrhage when the afterbirth was detached, but none after the prolapsus had been reduced. The patient was very much prostrated, and for an hour appeared to be dying; she, however, revived, and ultimately did well.

The placenta was very large, and Dr. Storer states that, had he made any attempt to return it, in accordance with the advice of Burns, Dewees, and Gooch, he would have met with difficulty, from its mere bulk. This case proves that inversion may take place without the interference of the practitioner; no traction was made on the cord, which was of the usual length, and not encircling the child.—*New England Journal of Medicine and Surgery,* July, 1842.

MEDICAL NEWS.

Irish Medical Charities Bill.—Lord Elliot has announced that this Bill is to be postponed for another session. One cause is the almost unanimous opposition of the medical profession, which has shewn very great and very persevering zeal in resisting it. Another, is the opposition of the political party agreeing generally in opinion with the government, who are fearful that the new Bill might lessen country gentlemen's local influence. A third reason is the admitted failure of the present Poor Law system in Ireland: the consequent want of confidence felt in its head administrators is supposed (and we think with good reason) to disqualify them for the additional responsibilities contemplated for them in the new act. It is said, however, that some member of the House, unconnected with the government, is pledged to introduce a bill which, it is hoped, will settle the question.

Lunatic Asylums.—The Lord Chancellor of Ireland, on Jan. 12, adjudicated on a most atrocious case of mal-treatment of a lunatic. The following is Sir Edward Sugden's narrative as given in court:—" I could hardly have believed that such an outrage on humanity, as is disclosed by the affidavits in this case, could have been perpetrated at the present day. A gentleman, of a highly respectable family, who is afflicted with insanity, was put under the care of a committee of his person, Afterwards one of his brothers was appointed committee, and he placed the lunatic in a house in Cork; and, after having done this, he neglected all that personal practical attention to the circumstances of the lunatic which he was bound to have afforded. Now the jurisdiction in such cases, which I have derived from the Crown—it may be delegated to any one, and I now exercise it on the part of the Crown—makes it the duty of the Court at all times to exercise parental care over persons in the situation of lunatics, and immediately to interfere in cases of the kind. This unfortunate lunatic was found by two gentlemen, who are magistrates in the county, and they immediately exerted themselves on his behalf; they, however, instead of entering into a correspondence with the committee, should have immediately communicated with me, and the business would have been promptly settled. So far from blaming them, however, for not acting according to the strict letter of the law, I am anxious now publicly, as I have already done privately, to express the obligations which I feel to them for their humane conduct. The lunatic was found by those gentlemen in an out-house belonging to the man with whom he had been placed, and from the state of the roof there was access for the weather and the rain; and, though it was in the latter part of the year, he was stark naked, his legs chained and clenched together, and fastened by a chain not more than two feet in length, without even straw, and not able, on account of his chains, to lie down in such a way as to rest himself, and without power to move beyond the limit of the narrow circle which the chain would describe. Such were the circumstances in which, through the inattention, to say the least of it, of his brother, the lunatic lived. If ever there is a moment when the care of one man for another should be anxiously exercised, it is when the other's power over his own actions is extinguished through his mental incapacity. A disregard for the comfort of those who are in this unhappy state, to falling into which we are all exposed, is most inhuman, and while we are free from it—thank God for being so—it is our duty to watch over those who are less fortunate. I believe it to be one of the first duties of every one as a subject to see that matters of this kind are investigated, as it is of the utmost importance to the country, in respect of the state of feeling existing in it, that regard should be had to the condition of persons in the situation of lunatics." We shall give, in an early number, an abstract of the recent act (5 and 6, Victoria c. 123) for the regulation of Lunatics.

MARGATE.—It is now said that the late Sir Thomas Preece made his will three years ago, and bequeathed the whole of his property to St. George's Hospital, in London.—*Kentish Observer.*

ROYAL MEDICO-BOTANICAL SOCIETY.—At the Anniversary Meeting, held January 16th, the following gentlemen were elected officers for the ensuing year:—President, Earl Stanhope; Treasurer, Henry Cope, Esq., Jun.; Secretaries, John Foote, Esq., Joseph Houlton, M.D.; Librarian, Edwin Saunders, Esq.; Conservator, Frederick John Farre, M.D.; Professor of Botany, office vacant; Professor of Chemistry, J. G. D. Rogers, Esq.; Professor of Materia Medica, George G. Sigmond, M.D.; Professor of Toxicology, John Charles Cooke, M.D.

ROYAL COLLEGE OF SURGEONS, LONDON.

List of Gentlemen admitted Members on Friday, January 13th, 1843:—H. H. Corbould, F. D. Howell, J. I. Atkinson, R. E. Davies, B. H. Hutchinson, F. O. Barker, H. W. Reynolds, F. J. Burrge, T. F. Mc'Ganran, R. E. Lutley, R. Rudall, A. Featherstonhaugh.

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SUMMARY.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c., &c.

(LECTURE V., Delivered December 12, 1842.)

Gentlemen,—In our last lecture we were considering the subject of nervous diseases in children, and I have now to call your attention to the subject of inflammation within the cranium; and I am well assured, that in private practice, inflammation within the cranium is not properly considered as the cause of disease. It arises in the first place from blows; in the second place, from a sudden stroke; and it may also arise from excessive mental application. The lamented death of Henry Kirke White arose from a cause of this kind. It arises from other circumstances, and it is generally considered to come on from suppressed menstruation; and it comes on in those cases in which the urine is albuminous. There is a fact detailed by Delamotte in a case of operation on the face; the auxiliary plexus of the nose was tied, and the consequence was inflammation of the posterior and the opposite hemisphere of the brain. You see from this enumeration of the causes of inflammation within the cranium that that subject is very obscure; and connected with the fact I have related to you, (for the case is not common) you will see that it will require the utmost attention to detect this disease early in its course. There is another fact which makes it still more difficult to detect, that is, it is very often a very low kind of disease; a very insidious disease. For instance, a very interesting case came under the notice of Cruvelhier, in which the patient scarcely appeared to have any sense at all of disease. The young man would get up and sit near the fire, until at last the symptoms came on much more prominently, and the case appeared ultimately to be one of the most distinct cases of inflammation of the brain.

The first symptom of inflammation of the brain, is pain, in which case it is like arachnitis, which is more acute than inflammation of the substance of the brain itself. Having mentioned these two cases, arachnitis, and inflammation of the substance of the brain, it is important to state that we have no diagnostic from which to determine when it is one case and when the other, and it is much more frequently that we find the two exist simultaneously. With inflammation of the membranes of the brain which affects the whole surface of the brain, there is inflammation of the substance of the brain, and this involves all the nerves within the skull which are more or less impaired; as these cases occur in the way I have noticed, I shall describe them together. Then we find that, sometimes, diseases will arise from inflammation of the membranes of the brain as in arachnitis, and also from inflammation of the substance of the brain. Then pain is the first symptom of it, but it is not of an excruciating kind; it is rather dull. With pain there are other symptoms, such as intolerance of light, or intolerance of noise, and other symptoms denoting an augmented state of the faculties of the brain; in one word, it will give you an idea of the first stage of arachnitis or inflammation of the substance of the brain. And the symptom of the utmost importance,—because it is exceedingly diagnostic,—is that of sleep. The patient does not sleep in the night, or is aroused by dreams and by starting. During the day there is no sleep, or if there is any sleep at all, it is merely a little dozing. No point is more important to notice in connection with disease of the brain. The next symptoms which come on, are those of the spinal marrow, and this I noticed in the former lecture, speaking of inflammation within the cranium in infants. Very often we find a little spasmodic action, perhaps a little strabismus, which accompanies a little spasmodic action of an arm or one leg, or both arms and legs. It very often happens that in the midst of this state of things you have delirium. Now, where the delirium is violent the case is that of arachnitis generally. Much later it is not violent. It often happens in a state of false delirium, and in a state of half sleep, that there is coma vita, and the eye gapes, and the eye stares. Now it is almost certain, in this case, that the power of the orbicularis palpebrarum is overcome by the power of the levator palpebræ, and this being almost solely a voluntary muscle, the contraction of the eyelid is overcome by the voluntary action of this single muscle of the body. This I noticed when speaking of the excito-motor power. I cannot enter into that subject but very briefly, just to bring a fact before you. Very often we conceive that the levator palpebræ is one of the muscles under the influence of this power. Now with regard to the orbicularis we can easily imagine, as we know it is a muscle of voluntary contraction, that its action is produced through the medium of the spinal marrow. It is on this account the eye is closed. Now, supposing it to act in an inverse manner, and that during sleep the eye is not closed, it is probable that the levator has some connection with the spinal marrow, as it is the only voluntary nerve in the brain. The gaping eye, as contradistinguished to the closed eye will be diagnostic of a state of half sleep, which is one of the symptoms indicating diseases of the membranes of the brain.

You must have been struck with one circumstance in listening to this detail of the symptoms of inflammation in the brain, and that is, they are all of an exceedingly low order, and are not at all calculated to strike the eye of the observer; on the contrary, they are not to be detected but by the utmost application of a spirit of observation to them. I believe I have stated three cases which I have observed at the early period of the disease, when the diagnosis is most important.

I just now want to draw your attention to a case in which the diagnosis is of the most vital importance. I have described a case of inflammation in the cranium, consisting of a series of symptoms all of a low character. There is slight degree of pain, abhorrence of light and noise, the inflammation is slight, delirium is slight, and every thing is slight. There is a disease which is exceedingly common after confinement, in which the symptoms are precisely similar. But what is strange is, that the symptoms are tenfold more violent. Those who have seen much of midwifery practice, will bear me out in stating that it often happens four or five days after delivery where there is more or less loss of blood, that the patient is taken with violent shivering. Now I said nothing about that with regard to inflammation of the brain. I do not say that it is not in connection with inflammation of the brain, but I say it is so decided that I know of no other disease where it is so. With violent shiverings, then you have headache of the most intolerable kind; and excruciating intolerance of light and sound. It is in such a case when you enter the sick chamber that you find the blinds down, the bell of the house prevented from ringing, the knocker tied, and the street strewed with straw. These things indicate a degree of intolerance of light and sound, and as I have said elsewhere, this is followed by violent shivering and violent headache. This disease is very common, and though it is so common, it was, I believe, until lately, called inflammation of the brain, and treated as such. I am persuaded that the want of a proper diagnosis has led to many errors of this kind.

It is by the very violence of the symptoms that you are to determine your diagnosis, and I always say, whenever the symptoms are slight and come on in the slow form, and in an insidious manner, you should suspect inflammation; and whenever the symptoms come on in a more violent manner, suspect that the case is different from inflammation. Now then, let us see how to determine the case when the symptoms are so dissimilar. When the case is slight, it is inflammation, when the symptoms are more violent, it is different. If you cannot discover any other diagnostic, the diagnostic is not altered by the use of a particular remedy. That remedy is blood-letting. In the case of arachnitis I need not tell you the remedy is blood-letting, and if you do not bleed freely the patient will die. In the other case, I believe blood-letting should not be used. But suppose you cannot determine the diagnostic. If you are quite satisfied from your diagnostic that it is not inflammation of the brain, then I have not another word to say. Now I will mention two cases that occurred the very same week, more than two years ago. I was called to a patient in Guildford-street. He was attended by Mr. R——; he had a very slight degree of pain across the brow, a slight degree of restlessness, and helplessness, and a slight degree of intolerance of light and sound. The symptoms were exceedingly slight. We came to the conclusion that it was inflammation of the brain. I said let him be raised perfectly upright and bleed him. This was done, and ten ounces of blood flowed. He did not turn pale, and Mr. R——dared not proceed farther. This was done on the first day. I went the next day and found the same state of things;—precisely that of coma. I said, "why not bleed him to syncope?" Mr. R—— said "we dare not." I left the room saying, "let the same thing be done." On that day twenty-four ounces of blood were taken, and the patient never fainted. On the third day the same thing was done, and twenty ounces of blood were taken; but that did not produce any fainting. On the fourth day eighteen ounces of blood were taken, and the patient fainted, and did not require to be bled again. I believe such a loss of blood could not have been borne had there not been decided inflammation; at any rate, I tell the fact to you, that the patient was well from that moment, and required no further blood-letting; and what I think important is, he did not suffer from the remote effects of the loss of blood. By that I mean that in many cases in which blood is lost by the system in the course of a certain number of days, there are throbbings of the heart, and the arteries, in the head, and so on. Such effects did not occur in this case. In the same week I was called to another patient, the wife of an eminent practitioner. I said to the husband, "what do you think of this case?" He said, "I think it is arachnitis or inflammation of the brain." I said, "that is

not my opinion. I do not believe there is any such malady here?" I should tell you there was a very deranged state of the alimentary canal; there was an excruciating pain in the head, and intolerance of light. I said, "I will tell you what you should do; you should go up, and bleed the lady until a state of syncope is produced." He replied, "yes, I wanted your sanction." I said, "I give it to you," and while he was gone up stairs, I wrote on a bit of paper, "the patient will faint before she has lost nine ounces of blood." She did so. Now that patient suffered from loss of blood; and that patient was a good many days in recovering from the remote effects of the loss of blood, though it was a very slight loss; whereas, the other patient, whose constitution was very strong, lost eighteen ounces, then twenty-four, then twenty, and then eighteen ounces of blood, on successive days, and never suffered in the slightest degree from the remote effects of the loss of blood. I am quite certain that I recommend a very safe measure when I recommend bloodletting; invariably putting the patient in an upright position. As I said before, you may mistake the symptoms; you may suppose there is inflammation when it is irritation, and you may mistake this for inflammation, and the more so because the symptoms of inflammation are insidious, but the symptoms of intestinal irritation are not slight nor are they insidious, but they come on with violent shivering, excessive headache, intolerance of light and sound, and very frequently delirium. In such a case as this you will take a larger quantity of blood in the severer symptoms, and a smaller quantity in the lighter, whereas, it should be just the opposite.

I must lead you, then, now to the second stage of the disease, and, as I said before, with regard to children, the second stage of the disease is the very opposite—the antipodes of the first: whereas in the first stage the symptoms are excessive, now in the second they are slight at first, but more and more severe ultimately. There is an obtusion of the senses, so to speak: a state of comatose insensibility becomes coma, and a state of half delirium becomes stupor. The patient now begins to experience intolerance of light. Now the patient, you observe, gradually becomes blind, and instead of more intolerance of light, there is very often blindness. Look at the pupil, it is contracted in the first stage, and dilated in the second stage. I consider the symptoms all of the same kind. I mentioned in the first instance, there was a disposition to spasmodic affection; instead of spasmodic affection you have, in this case, paralysis; there is some change that takes place which changes the state, that in the first instance produced spasm, into one that produces paralysis. I must explain the meaning of these two terms, and I will put to you an interesting physiological, and not an uninteresting practical question. I told you in the previous lecture, that lacerate the brain as you please, you cannot produce spasmodic action, nor in inflammation of the brain, will you have spasmodic action. There is not a more diagnostic mark of the softening of the brain, than the rigidity of the extremities. Now, then, comes the interesting question:—As it is impossible by any abrasion of the substance of the brain to produce any spasmodic affection, how is it that you have spasmodic action in the region of the brain? In that case of affection of the brain called ramollissement, this very rigidity takes place, from a mere affection of the brain itself. In every case of ramollisement, especially in the first stage, there is tumefaction. Now, therefore, the fact of pressure will produce spasmodic action. You remember the case I mentioned to you where pressure on the medulla oblongata produced spasmodic action, and in another case, a protuberance pressing on a nerve, produced spasm: and there was one case of protuberant disease, which, affecting the spinal marrow, produced spasmodic action. How do you account for this in the state preceding that of ramollisement? In inflammation, generally speaking, you have a state like that of tumefaction, and the organ is too large for the cavity; then, inasmuch as you have tumefaction producing pressure, that pressure will produce spasmodic action. Here, then, you have the phenomena accounted for. Then with regard to the paralytic state, paralysis arises from the irritation of the organ itself, and, as in the preceding state to ramollisement, you have spasmodic action and tumefaction, in the second stage of ramollisement, you have paralysis. In fact, every thing in this stage is paralysis. I have told you about the state of delirium passing into a state of coma, intolerance of light, and partial blindness, intolerance of sound, and partial deafness. So the state of undue sensibility passes into a state of entire insensibility. In the state of insensibility some very interesting phenomena occur, combining a very interesting practical point. In connexion with this point, I will detail to you a short case. I was called a short time ago, with several friends of mine, to see a poor man labouring under the symptoms of the second stage of inflammation in the brain; he was in a state of coma, and he was perfectly deaf to many questions I put to him. I cried out to him to put out his tongue, but he did not do so. He was perfectly unconscious, and agonizing pain was written on his brow. I said, "what can this possibly be?" Here is a point I want you to attend to. Now I come to it. In this state of half sensibility, the patient was not conscious of the natural wants, and therefore the bowels were insensible; the bladder was overflowing from being distended. Now the fact is this, the patient being unconscious, or in a state of things of half consciousness, or not conscious to such an extent as to allow of the acts of volition, and to void the bladder, the bladder being excessively distended, there is an extreme disentegration of the fæces from the sphincters, and therefore the urine flows from the violence of that disentegration. There is often pain under these circumstances, and it occurs in the case of typhus fever, and in common fevers. Invariably if you put your hand on the region of the bladder, you will find it to be full, and you will perceive a perceptible difference if it be empty. This man must have been suffering under the effects of a distended bladder; distended so far as to produce inflammation, and in this case recovery was quite impossible. The catheter was proposed, and the symptoms were relieved, and the agonizing pain written on the brow, was immediately removed. Here is undue sensibility, the very opposite state of things to what occurs in the first stage. Whereas in the first, all the functions were raised, now they are all in the lower state of insensibility. In this state of things, you are often called upon to see a patient, because, as I told you, the first state of things is insidious in its action, and its progress is slow. In the lower ranks of life especially, it passes on unnoticed, and then the second stage comes on before anything has been done to avert the symptoms of the first. You are called upon to witness such a case as that, in which you have comatose insensibility passing into a state of coma: there is no delirium, but a state of dozing: there is no abhorrence of hearing and seeing, but on the contrary, there is deafness and blindness. Every symptom in this state denotes a state of the brain such as that of unusual insensibility.

Here, then, you have the two first stages of the disease. I come now to the third stage, and all that I can say with regard to this is, that it is one which is severer still than the second stage. The coma is severer still. It is very often that in this case you observe paralysis, paralysis of that very arm, that was not previously contracted. Not only is there paralysis, but you observe a mucous substance infusing itself into the bronchial tubes, and causing an accumulation in the intestines. There is a slow sinking state of the system, and now not only does the urine pass involuntarily, but the bladder is more and more disturbed, and the intestines are more and more distended. Another symptom is that of a state of oblivion. That which was accelerated in the first stage becomes slow in this, and the symptoms are followed by death. There is little suffering in this case, which is a thermometer as it were of the progress of the disease. There is a curious circumstance connected with this sinking state mentioned by John Hunter, and he calls it a state of dissolution. Now it sometimes happens that there is excruciating pain in the case of hernia, and that the patient becomes altogether easy, all at once, all of a sudden, and if you are not immediately called in, you may give an erroneous prognosis. I attended such a case, and I saw the patient suffering from agonizing pain. Another practitioner who had been there before, had given a dose of calomel and this was followed by apparent ease, and every symptom seemed to be relieved and the pain gone; there was nothing to excite alarm. I left, and the next morning I heard with horror that the patient was dead. In fact, the state of cessation of pain was the sinking state, the patient lost all pain from the sinking state.

(To be Continued.

ON THE LAWS OF THE DEVELOPMENT OF ORGANS: OR, TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

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Summary.—Analogy between the monstrous productions of vertebrated animals and the permanent organic state of the invertebrata—Influence of the modifications induced by the metamorphosis of animals in the production of species among the invertebrata—Experiments of regeneration in the earth worm—Formation of the Polypodes, the vorticella, the rotellina, &c.—Formation of the shell of the aceres, of that of the limnæus ovalis, and of the bivalvular shell of the isaura cycladoides—Mutual relation of organogeny and of zoogeny as evidenced in the anatomy of the cirripides, considered as permanent embryos of the craw-fish.

The organization of the invertebrata is thus, when considered in its true light, but a reproduction upon a fixed plan of those organogenic data which we find it so difficult to determine in the changing embryogeny of vertebrated animals. With the former as with the latter, the organisms pursue an ascending course, and become subjected in this progress to the same laws of development. Like the vertebrata, the superior invertebrata traverse, during their periods of formation, the permanent organisms of the inferior invertebrata; so that these latter are, as it were, but the permanent embryos of the former. Observation or experiment will be still more decisive in the invertebrata than in the vertebrata; for that which in the latter takes place internally, and with a rapidity which renders observation exceedingly difficult, is in the former executed externally, and most frequently with a slowness which permits the observer to calculate its stages, and even to measure its variations. From this parallel progress of the organisms in the vertebrata and the invertebrata, springs a most singular and unexpected result. Whilst, in fact, in the vertebrata, the organic metamorphoses influence only the organisms, which are the seat of these changes, without altering or affecting the species or family, in the invertebrata, on the contrary, but especially in the lower ones, each metamorphosis, each transformation gives birth to a species, to a family, to a new genus. The genera, the families, the species, limited in the vertebrata, thus seem to be without limits among the invertebrata: a curious fact, the cause of which most probably depends on the parasitical life of the embryos of the vertebrata, as opposed to the free and independent life of the greater number of invertebrata. The comparison of these two species of life will moreover direct us towards the conditions of the uterine life of man and the mammifera, and may perhaps throw some light upon the cause of the abortions, so frequent in the human species.

We may remark that, in the invertebrata, life is freely performed with organic conditions, which we should denominate as monstrous in the vertebrata, for, in fact, the invertebrata are frequently but living monstrosities, if compared with the perfect vertebrata. Thus part of the polypi, and some infusorial animals, are *anenteric*, or devoid of intestinal canal, similar to the moles expelled from the female uterus. Others present only the anterior part of the alimentary canal: as for example, the *alcyona*, the *veretilla*, the *pennatula*, and

some *vorticella* among the *infusoria.* There are acephalous monsters, devoid of that which is denominated the head, among the invertebrata. A great number also, even among the higher classes, are destitute of a heart. These mutilations, these deprivations of organs are incompatible with the external life of vertebrated animals. An acephalous being devoid of a heart, or even of a part of the intestinal canal, dies on coming into the world; but before birth, it has a life of its own within the uterus: it has passed through a peculiar form of vitality; in a word, it has accomplished the life of an invertebrated animal. We all know that before birth, mammiferous monstrosities are endowed with life in the womb; but a fact less generally known, and hitherto scarcely regarded, is that there exists for these monstrosities a scale of uterine vitality,—a very important circumstance in a philosophical point of view, since it proves a species of independance in the being during embryonic life. Thus a fœtus devoid of a limb, will live longer in the uterus than one destitute of a heart and a head, as this latter in its turn will perish sooner than one in which the head only is wanting. These facts, in which science is already so rich, might, physiologically considered, tend greatly to clear the disputed question in anatomy as to the vascular communication between the mother and the infant. Suppose, that this communication does exist, do we not see that its cessation, or the natural detachment of the fœtus, should take place at the same period, whether this production be monstrous or not? What can the malformation of the fœtus have to do with this communication, if embryonic life be but a sort of grafting of the infant upon the mother? If, on the contrary, in embryonic life, the infant enjoy a species of independence, we may conceive that the malformations, or diseases, with which it may be affected, by abridging its life, must necessarily influence its expulsion, since a dead body cannot remain long within the womb of the mother.

We may, by the foregoing facts, judge of the influence necessarily exerted over the progress of organogeny, by the comparison drawn between the permanent organization of the invertebrata, and the transitory organization of the embryos of the vertebrata; but I will give still further examples of its importance. The successive gradation of the organisms in the embryo of man, and of the vertebrata, is one of the facts which has been especially contested in organogeny. Most are inclined to consider the embryo as an exact miniature of the perfect animal. Now, this question, so difficult to pursue in the young embryo, is repeated in the invertebrata under conditions the most favorable to its verification. Thus the earth-worm, arrived at the term of its development, differs greatly from the *polypus*, the *tænia*, the *helianthoida*, and the *arenicola*; but when we follow its various metamorphoses, we find that it is in the first stage a mere repetition of the *polypus*—in the second, of the *tænia*—in the third, of the *helianthoida*—and in the last, of the *arenicola*. What is also remarkable, is, that by experiments in regeneration, we find the counter-proof of this successive elevation of the organisms of the earth-worm; for in these experiments we make them descend in a manner similar to that in which they ascended in their natural development. Thus the first regenerations reproduce upon the new segments the structure of the *arenicola*—the second, that of the *helianthoida*, while the third and fourth give rise to zoonites of a structure similar to the *polypus*; for the force of reproduction becomes weakened and exhausted by its action, in the same way that the reproduction of the organic tissues of man is enfeebled and exhausted by too frequently repeated a regeneration.

By repeating these experiments upon the earth-worm, I have been enabled to bear evidence to the correctness of those zoologists who have distinguished several species of this insect, and by a comparative examination, I have become convinced that these various species are merely arrested stages of development of the more elevated species or type. Species may then, in vertebrated animals, be merely the result of modification produced by a greater or less metamorphosis. The most elevated metamorphosis will constitute the ideal type of the genus—the most inconsiderable will form the last species. Hence it follows, that the evolutions which, confined to the organs, give birth to the various organic species described by comparative anatomy, will, when regarding the organisms, produce in zoology the animal species. It is clear that we must adopt the same views in the study of zoology, as in that of comparative anatomy. Now, what would be the consequence if, in tracing each organ, we confined ourselves in an absolute manner to all the differences engendered by each evolution? We should evidently be led to consider these different states as different organic species. Thus, supposing an organ to possess four principal evolutions, like the prostate in man, or eight or ten, like the human kidney, we should have in the human species eight species of kidneys, and four species of prostates.

That which we have avoided doing in comparative anatomy, by reason of the progress of human anatomy being opposed to it, is precisely what has been done in zoology, in reference to the lower animals. We have taken and described as different species, the various metamorphoses which one species undergoes while traversing in the natural order from its original conformation to the term of its development. Hence, their exaggerated multiplication. I will illustrate this point by a few examples. When we trace, by the microscope, the development of the infusorial animals, we see these small beings successively clothe themselves with forms very different the one from the other: whilst some are arrested at the commencement of their development, others become transformed in their progress. At each step thus made, they leave their former associates behind; they traverse, as it were, to the bounds of their organization. The *kolpodes* are the principal genus upon which I have been best enabled to follow this transformation of forms. Their *ova*, when first laid, are obscure *monades*, buried in a colourless mucilage resembling the albumen of the egg; suddenly, this albumen becomes streaked with small lines, to which the *ova* are attached by *hila* so slender, that it requires a magnifying glass of great power to be enabled to distinguish them. The *hilum* is a sort of umbilical cord, by which the embryo of the *kolpod* receives its nourishment. Thus fixed, it develops itself, assuming the forms of the various species of *monades*, then of the *volvoces*, and the *gones*. At the moment of its becoming detached, this is the *kolpod cucullus*: a little later, we find it the *kolpod renarius*, which has successively clothed itself with the forms of the genera which are inferior to it. But all the embryos of the *kolpod* do not await this series of metamorphoses; many become detached earlier. Now, according to the period at which they acquire their liberty, these will be *monades*, *volvoces*, or *gones*, having their own individuality and life, independant of the group of associated embryos of which they made a part. The detached embryos become then species and genera constantly inferior to the *kolpod renarius*, which is the highest term of their transformation. The changeable *vorticella*, green or white, in like manner, presents in its development similar transformations.

The evolution of inferior species by the metamorphoses of species more elevated, has been already glanced at, in the *vorticella*, by M. Ehrenberg, who has also, by his able researches, reduced to their true meaning the numerous transformations traversed by the *vorticella convallaria* in the course of its developments. Observed at its different ages, the embryo of this *vorticella* differs so much within itself, that, according to the principles of differential zoology, it led Muller to consider each of its evolutions in the character of a distinct species, while Lamarck and other zoologists viewed them as the types of different genera. But M. Ehrenberg has again reduced these genera and species, by showing that the characters which serve as their basis are merely the transitory forms of the *vorticella convallaria.* "I am convinced," says M. Ehrenberg, "that the twelve species of Muller, of the genus *vorticella*, are merely the different states of a single species, and that with these twelve supposed species, Lamarck, Schrank, and others, have formed six new genera, that is to say, the *ecclissa*, the *ridella*, the *kerobalanea*, the *urceolaria*, the *craterina*, and the *ophrydia*, which are all but different ages of the *vorticella convallaria.*" In the new genus, which I have described under the name of *rotellina*, I shall be enabled to show, that the numerous species which this singular *infusorium* presents, are all merely simple modifications of the species with eight rays which serves as the type.

Among the *mollusca*, it is in the genus *aceres*, or *gasteropodes*, without apparent *tentacula*, that we best perceive the slight bonds existing between the *shell-mollusca*, and the naked species. It is in this genus that we can plainly trace the formation of the shell, or *testogeny*, for we here find all the stages of development of this species of protective armour, from its simple outline traced in the form of an entirely fleshy covering, up to a thick, solid, spiral shell, affording an ample asylum for the entire body of the animal. Considered in reference to the formation of the shell, the species composing this genus may be regarded as permanent embryos the one of the other, so that we can follow its development in them much better than we could do in the young embryos of any other molluscous animal. M. Dumortier has made similar and not less remarkable observations on this subject. Tracing the development of the molluscous *gasteropodes*, he has ascertained that the shell of the *limnæus ovalis* assumes successively, in the course of its formation, the characters proper to the species beneath it. "At the same moment," says this ingenious observer, "the shell commences to form itself at the extremity of the embryo. At first it presents the form of the shell of the *patella*; but, growing daily, it passes by turns through the forms of the *testacella*, the *crepidula*, the *ancyola*, and the *caborhon*, and when the animal opens, it presents that of the *succinea.*" Here then are five species of shells which are merely so many arrested points of the five transitory forms traversed by the shell of the *limnæus ovalis* during its development. M. Joly, while tracing the development of the bivalvular shell of a new genus which he has discovered among the *crustacea*, and which he has named the *isaura cycladoides*, in like manner confirms the observations of M. Dumortier.

The greater the progress we make in the study of organogeny, the stronger does the conviction become that the differential characters of organized beings are owing simply to the same organisms being sometimes more and sometimes less developed. Are not the insects which have undergone but a demi-metamorphosis, stages of permanent arrestation of those insects which have passed through a total metamorphosis? Are not the former advanced embryos, as it were, of the latter? By tracing, for example, the embryogeny of the bee, do we not see the division of its rings, at first in the state in which they are presented by the *hemiptera*, then in that offered by the *orthoptera*, and lastly as shewn by the *coleoptera*? Are not then the *hemiptera*, the *orthoptera*, and the *coleoptera*, in this respect, permanent embryos of the bee.

In applying this principle of zoogeny to the *crustacea*, let us choose as an example the *cirripedes*, the most difficult of classification among the invertebrata. Ranked by some with the *echinodermata*, by others with the *mollusca*; sometimes with the *annelida*, and at others with the *crustacea*, these little beings have been to classifiers, a constant source of perplexity. Now, what is remarkable, is that the imperfection of their organisms justifies all these conclusions; and, notwithstanding the able researches of which they have been the object since the time of Poli down to that of Cuvier, Thomson, Burmeister, &c., the *anatifa*, and the *balanea*, still wander from class to class; so that these animals have yet to be assigned the place which they ought definitively to occupy. Whence arises this fact? What can be the arrangement of their organisms, that it should allow their being classified, by some so high, by others so low? Will organogeny explain to us a contradiction so striking? It will explain it by its ordinary proceedings, if the *cirripides* are embryos arrested in their development. Suppose, in fact, that the *anatifa* and the *balanea* are *crustacea* in the progress of formation; suppose also

that this formation is arrested at a fixed period, is it not evident that their organisms will bear the stamp of this arrestation? Is it not also evident that you must class them, higher or lower, according as you take for the basis of your determination a more or less undeveloped organism? Now, this is exactly what occurs. Without stopping to justify these different classifications, I will shew that the *cirripedes* are merely permanent embryos of the *crustacea*, by drawing a comparison between their organisms and the embryogeny of the craw-fish. I shall, on this subject, lay the valuable researches of M. Rathke under contribution. The five pieces of which the shell is formed in the *anatifa*, the three pairs of jaw-bones, the divided state of their alimentary tube, the dorsal position of the anus, the enlarged vessel which represents the heart, the curved position of the body, not yet articulated, and furnished with paws, lastly the nervous system represented by a double chain of ganglia, these are the prominent characters of the *cirripedes*, and hence arises the unharmoniousness of their structure. If the arrangement of the shell induced Cuvier to approximate them to the muscle, that of the nervous system was a stronger justification for M. Martin St.-Ange in comparing them with the *annelida*. Now, by combining these conditions, we shall find in a permanent state in the *cirripedes*, those organic conditions which are merely fugitive and transient in the embryo of the craw-fish. Thus, at the second and third stage of its development, the bony covering of the craw-fish resembles the shell of the *anatifa*; the embryo is doubled up, and enclosed within it, as in the *cirripedes*. At the same time, its inarticulated body is furnished with paws—the heart is represented by a dorsal vessel—the branchiæ are in a similar position—the alimentary canal is divided—the anus is situated in the dorsal region—the mouth is composed only of three pairs of bones—lastly,as in the *anatifa* and *balanea*, the nervous system represents a double chain of ganglia, situated on the sternal bone, as described by MM. Audouin and Milne-Edwards. Suppose that the craw-fish becomes arrested at this period, will it not, in all respects, resemble the *anatifa*? Would not the organisms then present an almost perfect analogy? But whilst the *cirripedes* remain permanently at this period of embryonic formation of the *crustacea*, the craw-fish runs through its developments, leaving behind it the animals whose characters it had transiently assumed. The *cirripedes* then are embryonic craw-fish or *crustacea*.

This conclusion leads to another; for, if at a given period the embryo of the craw-fish reproduces the condition of the organisms of the *anatifa* and *balana*, we see that the zoological views entertained as to the *cirripedes*, are equally applicable to this embryo. Now, as the *cirripedes* have by some been ranked among the *echinodermata*, the *annelida*, and the *mollusca*, the embryogeny of the craw-fish must reproduce the echinodermata, the mollusca, and the annelida, to the same degree as the anatifa and the balana. I may further remark, that as the embryo of the craw-fish traverses, in its development the organic conditions of the *cirripedes*, which are its inferiors, so do the *anatifa* and *balanea* repeat, also in a transient manner, in their formation, the *oscabrione* and the *patella*, which, in the zoological scale, are placed far below them. There is, as we shall see, a continuous chain of resemblances and of repetitions of organisms, which, in the words of Geoffroy Saint-Hilaire, render almost indeterminable the *zoological species*.

Similar views may be drawn from the observations of MM. Carus, Dumortier, and Duges, upon the development of the *anodonta*, the *gasteropodes* and the *cephalopodes*. In comparing the transient states of the organisms of these embryos of the *mollusca*, with the permanent organisms of the *mollusca* which are their inferiors, we find in this class a repetition of the facts which have been just shown by a comparison of the *anatifa* and the *balana* with the different periods of embryogeny in the craw-fish.

Our conclusion is thus fully justified—zoogeny is but a fixed and permanent organogeny.

SOME CURIOUS PHENOMENA OF ELECTRICAL INDUCTION.

(Being a Lecture Delivered by Dr. Faraday, at the Royal Institution, on Friday, the 20th inst.)

Mr. Faraday commenced his lecture by stating that he hardly understood the feelings that came over him at these Friday evening meetings, for whenever he set about the preparation of anything which he thought might be interesting to his audience, he was always startled by the idea that he was about to deliver something which might be abtruse, and which, though it might seem interesting to himself, would turn out a very dull affair to them. He felt this on the present occasion, because although the subject of electrical induction ought to have a prominent place in the minds of those who were looking to electrical phenomena just now, when so many different hypotheses have gone out, and ought to be interesting to those he was now addressing—yet he felt it would be very dull indeed to them. It ought not to be so, because he was perfectly satisfied that any part of experimental science must be interesting to those to whom it is put in the form of clear ideas; and therefore he appeared before his hearers with the object, partly to instruct, partly to interest, and partly to amuse them by some illustrations of the induction of electricity, hoping that the bearing these phenomena had on the present state of knowledge with respect to this great globe, would be not merely their apology, but their justification.

It was always necessary at these evening meetings to assume that there were among the auditory some who did not know anything of the subject, and therefore there was always the necessity of bringing them up, as it were, to the point from which those well acquainted with the subject treated of, started. Now although he was about to treat of the subject of electricity—that extraordinary power in nature, yet withal so common, as to be to some extent exceedingly familiar, through the general diffusion of even a small portion of knowledge of every kind over society, yet unless the utmost attention was fixed on the phenomena induced by this extending power, that which was of the utmost consequence to philosophers and to mankind generally, would be treated as common place matters. By the aid of the glass rod in his hand, he was able to evolve a most extraordinary power *from* matter, *on* matter, or *in* matter, for a careful man knew not how to express himself under such circumstances,—yet, he had the ability by the simple instrument in his hand, to evolve, or put into action a most extraordinary power not apparent before. He had before him some gold leaves enclosed in a glass jar, perfectly separated from any external mechanical action—nothing could go near them—they were so suspended at one end, that the other extremities could separate and diverge, and by applying the rod of glass in his hand to the electrical machine in which the extraordinary power on which he was treating resided to a high degree, he could take from it a specimen or portion of that power, and by bringing it into proximity with the gold leaves, but not touching them, could make them diverge. This was but one illustration of the extraordinary power of electricity; that power on which, every day, life depends, which is ever moving in and about us, and without which we could not exist; a power of nature, which therefore ought never to be uninteresting to us. Another experiment of an interesting nature was that performed by means of the common Leyden jar, and this was all of his summary with regard to this power.

It was his intention so to treat what little he had to say of induction as to draw some conclusion, as far as he could go, or rather to educe some general expression with respect to certain phenomena of this kind, and which in nature we saw in the flash of lightning, the concussion of the air, and the electrical shock. It was strange, when we reflected upon the terrible effects sometimes produced by this power, that we could enclose part of it in a jar, so as to render it perfectly subservient to us, to be used by us when we pleased, and which we could bring into action when we liked; and produce precisely the same effect as the flash of lightning in the storm.

He would now advert to some particular properties of this extraordinary power, which, when put into action, manifested itself in various ways. There were certain phenomena of attraction and repulsion—though, perhaps, we were not quite sure about the matter of attraction, yet repulsion was certain, and in the minds of some the other was doubtful. He would, therefore, speak only of appearances, and those appearances were the very best for the observation of small portions of this power. It must be remembered, that in all experimental science, the smallest phenomena that could be manifest were sufficient, and were equal with regard to the inferences educed from them, to the phenomena of the most extraordinary magnitude. A lady, as she combed her hair, might frequently, on a dark evening, see sparks of light passing from the hair to the comb, thus affording to a certain extent, as correct a study of the nature of the flash of lightning in those small sparks as in the tempest or the storm itself, which in the open sea is so terrific. The velocity of the lightning, however, was the same in those small flashes which we could observe without endangering our life, as in the dreadful and terrific storm. Now by a rod of glass he could take from the electrical machine, a piece or specimen of electricity which he could communicate to another substance, and this he called induction, or the induced action of electricity. This induced action exhibited certain very curious conditions on certain occasions, and he used two kinds of instruments for the purpose of illustrating this. One instrument was a very beautiful one, called an Electroscope which consisted of a frame of wood, in which was suspended, by means of a fibre of glass, a rod of shellac bearing at each end a gold leaf. The glass was used because the electricity could not travel through it; and the shellac had the power of insulating or restraining the passage of the electricity from the gold leaf. The other little instrument was a very simple one, consisting of a rod of shellac with a gold leaf at the end, and by applying this gold leaf to the electrical machine, he could take a specimen of electricity, and then by bringing it into near proximity with the suspended leaves they were repelled. This was electric power in a very small quantity. This repulsion was owing to both bodies being in the same state, it being a law of electricity, that when bodies are in the same state, they repel each other.

Now induction caused the distribution of electricity on the surfaces of bodies. He would make this manifest by an experiment or two. He took a conductor of brass, mounted on a stem of shellac, and a metal jar mounted on its side upon a stem of glass: these he placed upon the table. Then, by means of a brass ball suspended from a string, he took a specimen of electricity and communicated it to the brass conductor, and he induced it again from the surface of this body, so as to cause the gold leaves in the glass to diverge just as they did when the electricity was taken from the large machine itself. The same experiment he produced with the other metal conductor on the glass stem. But to show that the electricity was only on the outside, he took a specimen of electricity from the machine and communicated it to the inside of the last-mentioned conductor, but from the inside of this vessel he could not again induce it so as to put the gold leaves in motion. He applied the metal ball to the outside, and there the electricity was, and he could now, by placing the ball on the outside of the conductor, and then bringing it near the gold leaves, cause them to diverge. The electricity had passed to the outer surface, though communicated to the interior. There was none at all on the inside, but on the outside it was abundant. This proved that electricity was entirely on the surface, and *that* by electrical induction. This was farther and better illustrated by taking a metal globe and hanging it up by itself, and also two hemispheres to go over it, and form what he termed an outside, so that he could place them on and take them off and examine them separately. This globe he electrified by the rod of glass, and the effect was

afterwards communicated to the electrometer, so that the gold leaves diverged. Then he covered the globe with the hemispheres, and the effect was transmitted to them. The electricity had entirely left the globe and gone to the hemispheres. No electricity could be taken now from the globe to which it was first communicated, although at that time electricity could be taken from its surface: but it being covered by the hemispheres, so that they formed an outside, it had all been communicated to them because they formed the outside. Another experiment made this more forcible. He took a metal vessel not charged, and by means of a carrier, or metal ball suspended from a silken cord, he charged it with the subtle fluid. He communicated this to the interior, but the indicator could not thereby be affected; on applying the conductor, however, to the outside of the vessel, he found that electricity was there, and its presence was made sensible to the indicator. This was a conclusive proof that electricity could be only induced from the outer surface of bodies. This experiment would lead to the understanding of what was meant by the electricity of a cloud being on the surface. A cloud consisted of myriads of little conducting particles, all held together by some strange condition or power governing them all. The electricity was not to be found on the exterior of the separate particles, but on the outside of the general mass. The metal radius, or an instrument consisting of a hemisphere with points radiating from its surface, illustrated this fact. This body could be charged with the electric fluid, but the central or the interior radius, did not manifest any signs of its presence; it was only to be found on those outside points which formed the circle or circumference of the whole. Again, he took a vessel formed of wire gauze perfectly open, so that in every part the light shone through it, and in every place the air could permiate through it. He charged it on the inside by means of the carrier, but on taking this out there was no electricity left on the inside; it had travelled to the outside, and there it was proved to exist. What was to prevent the electricity running through the wires to the outside? The inside and the outside were not the 100th part of an inch apart, and yet, though there was only this difference between the inside and the exterior, so that a mite would have to travel only half a second before it could get round, that which travelled at the rate of 400,000 miles in a second could not get round half the circumference which the smallest animalculæ in creation could go round.

It must be remembered that in every one of these illustrations, there was not a single phenomena in nature that was not touched upon in one way or another. Matters which might seem different, however different they were in their general character, the nature of all was summed up in one, and they were all subject to the same force and the same laws. Such were the general constitutions of the laws and forces of nature.

The experiments he had now to bring forward were to show the induction of electricity through air, and also its induction through other bodies. In the first place he inclosed some gold leaves in a jar, the top being open, and by means of a conductor he caused the gold leaves in the electrometer to diverge. On removing the conductor, the action did not continue, because it being only induced action, it could only remain as long as the induction lasted. This was induction through air. In the second place he placed on the top of the jar a piece of glass, and the same effect was produced; the induction took place through the glass as perfectly as through the air. He then removed the glass and placed on the jar a plate of sulphur (it mattered not, he said, how thick it was, on the contrary, the thicker the better), and on the approach of the conductor, the gold leaves diverged just as much as before. Connected with this experiment, it was a strange thing that the electricity penetrated the sulphur with double the force with what it was induced through the air. The same action was produced by substituting a piece of shellac for the sulphur or the glass. Now it was a strange circumstance that induction took place as perfectly through metal as through any other substance, provided the conducting power of the metal was not allowed to come into play. In induction through metal there was no distribution of the power, but the effect was the same as through the thick plate of sulphur.

The next experiment was to show that electricity acted through air, and that too to a great extent. He had repeatedly taken a specimen of this power from different parts of the theatre in which he was now lecturing. In order to show that electricity was induced through the air, he had suspended against the wall of the theatre a silk handkerchief with threads attached, so that it could be drawn together and removed without its coming in contact with any other substance. Attached to the electrical machine was a large metal bell mounted, near to the wall where the handkerchief was suspended. The machine was then put in motion, and this bell charged with electricity. In a minute or two he removed the handkerchief which was charged with electricity, as was made manifest by the electrometer. This experiment could be performed in the gallery or any part of the theatre; and, in fact, a specimen of electricity could be taken from the head of any one of the audience, and carried to the indicator in the same way as he had carried it in the handkerchief. Thus was this extraordinary power manageable, sometimes by the same condition and quality that it was unmanageable at others. It was a property of electricity to produce the opposite state in everything that was conducting near it. In performing the next experiment, he took a slate or metal vessel and placed it on a plate of shellac, with a metal plate on that, and he then placed in that shell another, and in that another, and then a fourth in the last. These vessels did not touch each other, and yet there was a perfect action induced through all the shells, and all the electricity was on the surface of the inner shell, so that when that vessel was removed, all the electricity was taken from the apparatus. It had passed through the air to the metal, and was all on the outer surface of the inner shell. The same result would be obtained with a thousand shells. It was important to observe that not the smallest amount of power was ever lost in any of these experiments. It was an important thing to notice a fact which the mathematician would understand, that the sum of the focus was precisely the same under all circumstances. Dalton had illustrated this beautifully, in some chemical phenomena, where there was a certain definite chemical effect; and so in electricity, there was a certain definite action in all the variations. There was no adding to, or taking away from, the amount of power.

Great consideration was now being given to the condition to this earth, which was a globe electrified in space. In illustration of this, some striking phenomena were produced, which led to the question, "What is the state of this globe?" We were in the habit of thinking that on the surface of this globe on which we live, there was a certain action going on, that of repulsion. The vicissitudes and changes that were going on on its surface, did not tend to changes in its electrical condition. It must not be supposed that the most important electrical and atmospherical phenomena were exhibited in the thunder storm, for though electricity existed in the atmosphere, all things in existence partook of it, and it was manifested in the growth of plants which were continually and silently discharging electricity to the air. It was pretty sure that plants had this power, and that they were great lightning conductors. On electricity depended the health and the growth of plants; it was this influence that made them grow and become serviceable to mankind. On the other hand Beltier had, with respect to this globe of ours, given out a notion that was very startling, and which was quite in opposition to the views of philosophers up to the present time. This philosopher thought that this globe of ours on which we live, was in a highly negative state, and that space around us was in a highly positive state. It was worth a great deal to know in what state this globe was. It might be that space was in the opposite state, or what was more likely, that the objects in space—the planets, the sun, and the stars, were in a negative state. There were some objections to the theory of Beltier, but there was no doubt the sun, the moon, the planets, and the stars were in one state or the other. Leaving this matter, he illustrated the effect of the lightning on the surface of the globe, by placing on an insulating machine a board, the surface of which represented the surface of the earth. He then placed on this board a small mouse, and then putting the machine in motion, directed some electric sparks to the board near the mouse; the little animal seemed to be no more affected by it than by being a little alarmed at the suddenness of the light. The fact was, that although the animal was in a highly excited state, it was not at all conscious of it, and this probably accounted for our not being aware of, or not being physically made sensible of the presence of the electric fluid constantly surrounding us. We must not however conclude that the notions advanced by philosophers about the state of this globe on which we live, were all imaginative because we could not feel personally the effects of it. The condition in which we exist must be a very curious one, because the external state may depend on the arrangement of the electricity in the atmosphere, which we could not feel unless a spark descended upon us, as in the experiment with the mouse; the little animal was sensible of nothing but the vivid flash of light and the startling noise, because the flash was not directed immediately upon it. It was remarkable that there was no variation in the experiments on this subject. He had sought by a mirror placed at the top of the house to detect whether there was any difference in the direction of the electric flash, and he had invariably arrived at the conclusion that the induction was not in straight lines but in curved lines.

There was one very curious matter he must bring forward with reference to thunder storms and clouds. First of all there was clear light air, which was perfectly a non-conductor; electrify it as we might we could see no effect. Now the definition of water in a state of vapour, was to form a cloud above us; then this globe was a conductor, and the moment the cloud was formed and approached the earth, a kind of induction took place. These particles of vapour combined, formed as it were a surface, and the cloud took up the electricity. The electricity of a cloud he illustrated by a tassel of tissue paper on a rod about 12 feet in height, and on electrifying this rod, a most beautiful divergence of the tassel was produced. Now all the electricity in the tassel was found to exist on the extremities of the slips of paper, on the outside of the radius. It was a curious circumstance, that a cloud consisting of watery particles charged with electricity did not break up, that these particles did not separate and fly off by the action of repulsion and become distributed into space. The same power, however, might cause them to hold together; they might be kept in their united form by the induction of the air. How otherwise he could not conceive, from the nature of a cloud, it could hold together, and that the whole of the clouds did not distribute and make winds by their action. The electricity was then on the exterior of the cloud, as it was on the exterior of this tassel, in a state of divergence, but by taking electricity from the earth by means of a conductor, and applying it to the points of the tassel, the divergence was destroyed, and they collapsed. This was precisely the effect produced upon the cloud by the induction of the earth.

In conclusion, he hoped these few excursive observations had afforded to his audience sufficient interest to induce them to take up the subject with that attention its importance demanded, and at a future time, he hoped to be able to bring forward something more definite on the subject.

Value of Mercury in Syphilis.—Mr. Bacot concluded, after carefully noting the reports from the British and other European military hospitals, that when mercury was not used in the primary treatment of syphilis, the average number of secondary cases occurring was 1 in 10; but only 1 in 75 when mercury had been employed.

CURABILITY OF CONSUMPTION.

(Continued from page 26[illegible].)

To the Editor of the 'Medical Times.'

Sir,—I have endeavoured to trace, however faintly, the outline of nature's plan for the cure or mitigation of consumptive disease. The more satisfactory task now remains to point out the manner in which she may be successfully imitated by art. I desire, however, to make a few general observations by way of preliminary to this department of the subject. From age to age, she has been indicating to medical observation the true and simple process of treatment in this destructive malady, unheeded and in vain. A singular fatality has persecuted the question from the dark days of Chiron, the Centaur, down to the present times; which, in these northern latitudes, boast of being enlightened by two great luminous bodies,—our Royal College of Physicians, and no less "Royal" College of Surgeons, in whose collateral light move many wandering stars of various magnitude—from the charlatan of the sixth, to the physician ordinary or extraordinary of the first degree. And yet this spot upon our disk still remains in visible darkness—palpable obscure—so far as any light reflected from these sources can enable us to discover. Our shelves are encumbered with tomes, ponderous or light, and our poor brains puzzled with interminable disquisitions on its causes, varieties, and treatment; nearly all these differing on every point but one, its incurability by art. The grave is the place of rendezvous where all those travellers meet. On the Continent, pathological research has thrown a dim religious light upon the subject, and taught Laennec and his disciples to expect a cure, by remedial art in certain stages and circumstances, and, by nature, frequently. The experience of that eminent innovator on established prejudices led him, in the latter part of his life, to consider cases of cure as extremely common. He felt assured that when the lungs were not completely disorganized, a cure ought not to be looked upon as impossible, either in reference to the nature of the disease, or the organ affected, an opinion appropriately prefixed to Dr. Ramadge's very original and practical work on Consumption. He mentions that on the shores of the Bay of Douarnenez, his native place, whither he retired in a state of latent phthisis, one-half of the consumptive cases were cured. Unhappily for science, this great man was cut off prematurely by the very disease he had so deeply studied. Had his opportunities of observation been on an equally extended scale as this great metropolis supplied to Dr. Ramadge, or had he survived some years to mature his views, I entertain little doubt but that he would have arrived at the conclusions I have been endeavouring to describe, and adopted sounder and less empirical principles of treatment.

Fournet, who obtained the prize at the Concours of the Hospitals of Paris, for his clinical researches on auscultation of the respiratory organs, in the preface to his work, expresses the confident hope that his investigations may impress the influential classes of society with the salutary conviction that consumption *is* curable, and that an opposite opinion is not only barren but mischievous. Among our English writers on the subject, Dr. Carswell forms a pleasing exception to the desponding school of incurables. Permit me to quote the following appropriate confirmatory testimony from his pen:—

"The important fact of the curability of the disease has, in our opinion, been satisfactorily established by Laennec. *All the physical signs of tubercular phthisis have been present, even those which indicate the existence of an excavation, yet the disease has terminated favourably, and its perfect cure has been demonstrated by the presence of a cicatrix in that portion of the lungs in which the excavation had formerly existed.* . . . . There must be few practical pathologists who will not consider these anatomical facts as evidence that tuberculous phthisis is a curable disease. No objection has been brought forward, calculated, in the slightest degree, to invalidate the conclusion to which we have been led by the repeated observations of the changes we have described, viz.:—that these changes are positive indices of the removal of the material element of the disease, and also of the cure of the lesions of structure to which it gives rise, even at an advanced period of its progress. . . . *We cannot avoid repeating the fact that pathological anatomy has, perhaps, never afforded more conclusive evidence in proof of the curability of a disease than it has in that of tuberculous phthisis.*"

In these sentiments he is happily at variance with our other modern English writers on the subject. What a discreditable exhibition of the state of our medical science does Dr. Young's work on consumption furnish! He says, "It is probable that, without assistance, not one case in a thousand of the disease would recover, and with the utmost power of art, not more than one in a hundred will be found curable." The facts are more nearly the reverse. His preceptors and coadjutors at St. George's Hospital must have made a negligent use of their opportunities of autopsy, not to conduct him to sounder conclusions, and the time he consumed in deciphering Egyptian hieroglyphics, had better have been devoted to pathological research. Sir James Clarke characterizes his work as a monument of industry! Why did he not add, ill-directed? I question whether he ever took the trouble of opening a dead body. Had the scalpel been more frequently in use among the members of the College of Physicians, their character, hitherto, would have been more highly estimated. Pathology has been sadly neglected by them. Dr. Baillie's work on morbid anatomy has been appropriately designated by Mr. Lawrence as a mere catalogue of appearances, in which several important parts of the human body have been omitted. Having occupied a wing of the old College, he had ample opportunities of becoming familiar with the museum, of which he has been heard to say that the seats of a hackney coach would contain all the preparations in it of any value. One of the Curators once observed that any person of moderate industry might accumulate as good a collection in a couple of years. The sums expended by the College on its festivities, before Dr. Baillie made them a present, of his preparations, as it were, out of charity, would have been more judiciously employed in purchasing morbid structures of the human body illustrative of obscure diseases.

As to Dr. Baillie's work on morbid anatomy, a very cursory perusal will shew to any one at all familiar with the subject, that he did not pay due attention to the most ordinary *post-mortem* phenomena of diseased lungs; for instance, he takes no notice of the semi-cartilaginous cicatrizations which are so very common, etc. For a long series of years, there were no dissections of the human body either at Oxford or Cambridge. The anatomical Museum at Oxford was of such slight consideration at a recent period, that its locality, as well as I can recollect, was in an attic. Facts such as these in some degree account for the erroneous views relative to phthisis, too long prevalent in this country.

The late Dr. T. Davies—whose position as junior colleague to Dr. Ramadge, for some years, at the Infirmary for diseases of the chest, apparently entitled his *dicta* to respect,—was a zealous apostle of the doctrine that consumption is incurable. It may not be amiss to state that the charge I have already made against our physicians generally, was but too applicable to him, as during his connexion with the Institution, he did not attend more than one-half the time, and for the last ten years the term of his visits seldom extended to half an hour. The hurried manner in which, as a necessary consequence, he must have examined his patients, was not only commented upon by them and the matrons, but rendered it impossible that he could derive any sound practical information from his infirmary practice. The following anecdote may not be uninteresting. He was requested on one occasion to re-examine the body of a person who had died in the New North Road. It had been previously opened by Mr. Baker, of Brudenell Place, and another practitioner, and they had taken away the stomach for the purpose of examining it minutely, and analysing its contents, as it was suspected the deceased had taken poison. Notwithstanding this, Dr. Davies discovered, it appears, another stomach, which he pronounced to have been in an ulcerated state!!! in fact, he mistook a dilated portion of the large intestines for that viscus. Mr. Kiernan, F.R.S. was present at this remarkable discovery, and joined heartily in the laugh it raised afterwards at the doctor's expense, and, as a purturbed countenance indicated, by no means to his satisfaction. To stamp his authority with double weight, he was in the habit of stating that he had been long a pupil of Laennec, whereas, I have been indirectly informed, through that skilful and intelligent physician at Camberwell, Dr. Caldwell, that such could not have been the case, otherwise he (Dr. C.) must have been cognizant of it, having resided in Paris and attended Laennec for many years, including the time specified by Dr. Davies. I was not a little puzzled in perusing an article which he communicated to Dr. Townsend, to reconcile with credibility or consistency the Tabular statement therein given of several cases of empyema successfully operated upon by his directions, the proportion of cures to deaths being as four to one, a proportion not before or since boasted, I believe, by any practitioner. In the majority of instances, empyema is a consequent on phthisis. If the latter be incurable, even when uncomplicated, how can it be cured in this highly complicated form? or is it to be taken for granted that all these successful cases were unconnected with phthisis. This would be *reductio ad absurdum* in good earnest. Laennec very justly remarks that this operation, paracentesis, in cases of empyema, is rarely followed by success, owing to various causes not generally well understood. One is the bad condition of the lung itself, being frequently tuberculous; another, the admission of air into the chest, producing irritation on the surface of the pleura, and carrying off the patient by a great and offensive discharge; and a third is the compression of the lung against the spine and mediastinum, and the nature of the investing false membrane, which, from its tendency to become converted into fibrous tissue, is a great obstacle to the dilatation of the lung. In the face of these obstacles, however, this lucky physician claims the merit of having succeeded in the proportion above named! So far as the infirmary practice was concerned, I can give the following facts:—Two cases were seen there under treatment by him. One was a boy 10 or 12 years old, an out-patient, who sunk under a fetid and exhausting discharge in the way described by Laennec. The other, and only one operated upon in the infirmary by his directions, was an interesting young man, named Thomas Beamond, who was admitted on the 12th November, 1833. He had previously been under the care of Mr. Septimus Reid, of Jewin Street, who could testify to the very favourable and satisfactory state of his general health at the time of admission. The operation was performed by the individual mentioned by Dr. Davies, as having under his orders achieved great success. The result subsequently was, as Mrs. Hine, the matron, can corroborate, that reduced to the lowest conceivable state of exhaustion by a constant, irrepressible, and intolerably fetid discharge, he was removed to his own home, where he shortly after expired.

A little boy, named Moses Dacosta, aged nine years, residing with his parents at 14, Sheppard Street, Spitalfields, a supposed case of empyema, was admitted as Dr. Davies's patient on the 30th May, 1839. Having first been put under a course of mercury for more than a month, with the view, I presume, of removing the effused fluid by absorption, he was about to suffer paracentesis from the successful (?) operator just alluded to. The boy's mother, however, at the instance of Mr. Garcia, her usual medical attendant, whose advice she asked, referred the case to Dr. Ramadge. This physician, upon examination, ascertained that it was not a case of empyema, but one of well-marked phthisis with a very large cavity in the inferior lobe of the right lung. The operation of course was not

performed. Mrs. Gordilier, the present matron of the infirmary, had frequent opportunities of seeing the boy previously, and remarked his progressively declining state. He was then placed under Dr. Ramadge's care; his constitutional symptoms gradually yielded to remedial treatment; the cavity, after some period, was obliterated by the expansion of the lung through artificial means, and he is now in the enjoyment of excellent health. He has been seen and examined by Dr. Hull of Peckham, Dr. Parkin of Torquay, and Drs. Fitch, Newton, and Hull, of Philadelphia; all of whom were attending the Infirmary; and also by myself and many others.

In his lectures, subsequently published, Dr. Davies has given the name of another practitioner, who he states, was successful in several cases of paracentesis for empyema, under his auspices. Perhaps the following was one of these auspicious cures. —A boy, named Cailly, residing near Finsbury market, was pronounced by Dr. Davies to have empyema, and to require the operation. No time was allowed for the chance of a cure by absorption, which is not uncommon, or by one of those rare accidents where the matter makes its escape by pointing exteriorly. Arrangements were forthwith made for the paracentesis. A vessel was placed *in situ aduneo* to receive the expected matter, and the practitioner referred to, being in a favourable position to admit of its exit, made an attempt to introduce the trochar. Encountering, however, some unexpected impediment to its entrance, his courage failed him, and maugre all the encouragement he got from the Doctor, he declined persevering, and it was abandoned. Yet the boy got well, and no doubt had a fortunate escape. Was this one of the successful operations? Perhaps the gentleman in question may still have some slight recollection of it; if not, I could refresh his memory by reference to a medical confrere who was present on the occasion.

Inquiries were diligently made respecting the cases under the two practitioners alluded to, in which this success was so unprecedented, and two handsome donations offered to the Infirmary, on condition that the statements should be substantiated. This condition was never complied with, and the donations of course were not made to the institution. The foregoing observations supply their own comment; they shew that the authority of some of the most decided opponents of the curability of consumption is of little or no value, and I would conclude by saying, *ex his, disce plures.*

When medical men make up their minds to despair of success in the treatment of consumption, they do much towards rendering it really desperate. I grieve to think how many are left to perish who might be saved were proper efforts made by professional advisers. The associations that surround this subject as it has been left for ages, are truly melancholy. Hitherto it may be said of consumption, with its wide embracing arms, as of the greedy sea, "Thou hast treasures in thy bosom—the beautiful—the brave!" Few indeed are the families that do not at one time or another mourn over bereavements from this formidable disease. Beauty's fairest flower cannot charm its eye, nor the proudest strength of manhood arrest its progress. The tongue of eloquence is mute in its presence, and the fire of genius turns pale and expires. The sighs of weakness and the frowns of power are alike disregarded here;

> ——*Æquo pulsat pede pauperum tabernas*
> *Regumque turres.*

It lurks in the abodes of the poor, boldly lays siege to the thrones of monarchs, and claims as its own at least one-fourth of the domain of human life, even in this land of science. We have too long silently acquiesced in the usurpation. But the advance has sounded in the ranks of physic as well as surgery. Let us take for our motto, "*nil desperandum*" and do our duty. The cheering conviction will soon arise from the result of successful efforts that we have yielded too much to imaginary fears, and that this great economy of life is neither invulnerable nor invincible.

DISCIPULUS.

(To be continued.)

VARIETIES FROM THE GERMAN.

(For the Medical Times.)

THE FIRST VENESECTION IN RUSSIA.—The father of Peter the Great, the Emperor Alexis, in a fit of ungovernable passion, fell down senseless. The court physician was immediately called in; he could scarcely feel any pulsation; the countenance was blue; the lips pale; in vain were all the most forcible stimulants applied. The situation of the patient became every moment more critical, and the physician declared that nothing but immediate venesection could save the Emperor. The chief officers of the court were called in; the doctor bound the Czar's arm, and was just about to plunge in the lancet, when the Emperor came to himself. On seeing these unusual preparations around him, he raise himself, and angrily asked the doctor "what were his intentions." The doctor replied that as a too sudden accumulation of the blood had thrown his Majesty into peril of his life, he had considered venesection the only remedy. The Czar enquiring the meaning of the term, the doctor explained the nature of the operation in the most attractive phrases in his power, when the Czar responded, "What, dare to wound, me, on purpose to shed my blood?" The doctor replied, that though in Russia venesection was not yet known, that in France, Germany, and Poland, this operation had been long resorted to with success. He assured him that it would enable him to breathe more freely, and prevent the chance of increased inflammation. The Emperor now nearly relapsing into a state of insensibility, said, is there no other remedy left? Is venesection deleterious to a sound person? If not deleterious, is it at least unnecessary? Is it possible to open the vein of a sound person without death ensuing? Being answered satisfactorily, the Emperor insisted on having the operation performed first on the doctor's own arm. The physician objected, that he would not be able to perform the operation on his Majesty, the arm, if bled, requiring repose, but proffered to submit to the operation as soon as he had tied up the Emperor's arm. The Czar sharply scrutinized the doctor's countenance, and hearing again that it was absolutely necessary, called several of the first and most distinguished dignitaries of the state, ranged them in a row, and then ordered the doctor to perform venesection on them in succession. The courtiers did not know the Emperor's object, but submitted blindly to the order, and showed no small dismay while observing their blood issuing in streams from their veins. Encouraged by the absence of any dangerous symptom, the Emperor bared his arm, turned aside his head not to see his blood flow, and the first royal Russian venesection was performed.

EATABLE BIRD'S NESTS AND THEIR COLLECTION NEAR KARAMBALANG, ON THE SOUTH COAST OF JAVA.—In the neighbourhood of Karambalang, is the river Kalie Lara, (viz., the river of Lara). Thousands of small birds, which, with the exception of their diminutive tails, resemble much our swallows, here build their nests on perpendicular cliffs, bathed by the waves of the Pacific. Their nests resemble much a mustard spoon with a long handle, hang together by pairs, and are so placed by their long ends in the cavities of the rocks, that they are protected from the influence of the wind, &c. The collecting of these eatable nests, is accompanied with much danger, many people are killed in this endeavour, on which account only the native labourers are employed in this work. They built scaffoldings of Bamboo on the precipice and the caverns of the rocks, in which the Purong Salanzen (this is the native name of these birds) are to be met with. They then break them off with iron hooks, no matter, whether there be young birds or eggs in them. The nests collected near Karambaling belong to the inferior in grey quality, whilst the better white sort is collected near Bajermassing in Borneo. In the latter place, the collecting of nests is not so dangerous as in Java, on which account there are some volunteers who collect them. In the Dutch possessions in Borneo, they are the property of the governor. Many of them are also stolen by persons who have no leave to collect them. In Java no Chinese is permitted to come nearer than 3,000 yards to the rocks of Karambalang. The substance of which the Puren Salanzen make their nests, and the reason why they do not putrify soon, is not yet decided by naturalists; yet it has not been taken notice of, that the rocks on which they are to be found, contain a good deal of saltpetre, which drops down from the cavern. It is, therefore, probable, that the air also is impregnated with particles of saltpetre, which penetrate the substance of the nests, whilst they are building. If these nests are not properly cleaned, they retain an obvious taste of saltpetre. Travellers have observed, that rocks where saltpetre has been found in former times, and where its formation does not take place any more, these birds will cease to build their nests, and the few which might be still found, are broken and crumbling to pieces. This may be the reason that so many birds resort to Karambalang, although their nests are destroyed almost every season.

ON THE ORIGIN OF THE USE OF COFFEE.—(From an Oriental MS.)—It is generally reported, that a shepherd boy had observed in Arabia, that whenever his goats eat of the leaves or flowers of the coffee tree, they always were more lively. He had thought on the subject, and found that the use of the plant produced the same effect upon himself. This is the general belief of the introduction of coffee into general use. Our manuscript gives however, the following. In the first period of the Mahomedan creed, there lived in Mecca a widow and her daughter. Their occupation was to receive and to entertain travellers, and on that account they did not escape the scandal of the neighbours; the Shiek, in consequence, ordered them to leave the town, and the mother soon after died in misery. The daughter made the grave of her mother near a coffee tree, and selected a neighbouring spot for her own grave, where she was laid when dead by a holy hermit, who had taken care of them during life. Shortly after, a severe plague devastating Mecca, the Shiek who had expatriated the poor people, died, and with him several others who had behaved ill to the family. This opened the eyes of the successor of the Shiek, who convinced that they had wronged mother and daughter, ordered the expiations usual in the Orient, especially the usual ablutions. For the sake of making this as efficient as possible, they used a decoction of the leaves of the tree, under which the two martyrs were laid. A sense of superstition led to the drinking of the decoction, and successively the berries coming into repute, were used first raw, then roasted, and finally ground to powder.

ON THE CULTURE OF ROSES AND THE MAKING OF ROSE WATER, AND THE CELEBRATED ATTAR AT GHAZEEPOOR.—About Ghazeepoor, nearly 150 acres of land are planted in small allotments with roses, of which each contains 2,000 plants, which yield

two lacs of roses, and produce 8140 Rs. The roses flower from March to April, are gathered in the morning and delivered in long bags to the place of distillation. The apparatus used for it is a kettle, of 3248 quarts, made of copper or iron well tinned, having a narrow neck. Of 1,000 roses, mostly one and a-half lacs of rose water are distilled, but of the best only one lac, and the remainder of the water used for distillation is exposed to the Sun, and its price is very low. For the purpose of making attar, the rose water is put in a basin covered with white muslin, and placed during one night two feet in the ground. The pellicule formed during the night is taken off with a spoon, and placed carefully in a little phial, and this is continued for several days, and every access of the Sun carefully avoided. After a sufficient quantity of attar is collected, it is strained off clear, and filled in small bottles. Pure attar is first light grey, afterwards it becomes light yellow, and melts at a temperature of 84 deg. Roses, the flower of which are well developed, and such as have been exposed to night frosts, yield most attar. That sold in most Oriental bazaars is mostly adulterated with sandal or almond oil, and the pure is not sold under 8000 rupees for the Talah. Generally, the inhabitants of Ghazeepoor, do not remove the calyx of the roses, but it is considered, that such oil will not keep long, and will have a sour smell. A great quantity of roses is sold at Penean, the amount thus realised may amount to 70,000 rupees, but has been on the decrease lately

TO CORRESPONDENTS.

An Antiquarian *may, we understand, procure copies of Sharp's celebrated engraving of John Hunter, after Sir Joshua Reynolds, from Mr Stone, the sub-librarian, or Mr. Clift, the conservator of the College of Surgeons.*

Dr. Coghlan *of Wexford, sends us a case of great professional hardship. After attending a midwifery case occurring at midnight, on a rainy night, at a considerable distance, under a promise of immediate payment of his fee, the doctor was obliged, after repeated demands of payment, to summon the husband for the amount before the presiding barrister at the Quarter Sessions, when the claim was negatived, and its expences thrown on Dr. Coghlan's shoulders, on the ground that being a physician he could not sue for fees. Now as Dr. Coghlan is a member of the College of Surgeons, and an Accoucheur by education and profession, we should take leave to doubt the legality of denying him payment for services performed in those capacities, because in addition he happened to be a physician. But, whatever the law is, the practice has run in the direction of the presiding barrister, and well justifies in its exceeding absurdity our respected correspondent's question "Will putting my medical diploma in the fire protect me from its disqualifying influence?" This is one anomaly among a thousand calling for redress.*

A Subscriber (J. R.) *will find the mode to mesmerise fully explained in No. 152, vol. 6. This answer must suffice for a number of similar enquirers. From what we have noticed, those who simply place the fingers' tips directly before the eyes of the patient, appear to produce the comatose state with most ease.*

A. M. and other Correspondents. *If there be no candidate doubly qualified, a licentiate of the Hall can certainly be elected by the Guardians' Medical Officer to the Union. The exception is specially made by the Poor Law Commissioners.*

Dr. M. Hall.—*We must decline the many communications we have received on this physician.*

Mr. Cook, Enniscorthy.—*The numbers from 33 to 38, forming a part of vol. 2, are out of print. We have sent the more recent numbers.*

L. N. (A Medical Student.)—*Mr. Nottingham lives in Roscommon Street, Liverpool. For second question consult a good bootmaker (our next door neighbour for example) who will probably answer in the affirmative; for the third look at our advertisement page.*

Mr. Baker.—*The classical subjects for examination at the London University are not made known to us, but a letter to Mr. Rothman, the Registrar, would doubtless be courteously responded to.*

Alethes *must furnish us with his name, the respectable party he responds to being known to us.*

P. S.—Mr. I. H. P., Glasgow—Philo—Potus—Deum Optimo—Justitia—A Medical Reformer, *declined.*

A Physician *with a German degree may practise as a physician—as indeed any quack may—if he practise seven miles out of London. The preparation of his own medicines, and the donation of them prepared, is no infringement of the Apothecaries' privileges.*

H. W. *has a higher opinion of his writings than our judgment of them justifies. They are preserved by an accident and if he still think them worth sending for, will be found lying at our office for him.*

A Correspondent sends us a coat of arms for Dr. M. Hall. We cannot insert it. Does our Correspondent know that the pills which make so conspicuous a figure in his sketch, are emblazoned on the coat of the celebrated Medici family? The disparagement is certainly not there.

We are obliged to postpone Dr. Williams' Lecture till next week, when we shall also publish the conclusion of Dr. Clay's papers on Factory Diseases.

In answer to many new subscribers we beg to give the following information on our first numbers.—Vol. 1 contains Lectures by Lawrance on Surgery, vol. 2 is in part out of print, vol. 3 Lectures by Lawrance on Surgery, vol. 4 contains Lectures by Lawrance on Surgery, and by Professor Owen on the Reproductive Organs, vol. 5 contains Lectures by Velpeau on Diseases of Women, Scoffern on Chemistry, Chomel on Pneumonia, vol. 6 contains Lectures by Velpeau on Diseases of Women, Roupell on Materia Medica, Professor Chomel on Pneumonia, Professor Owen on the Nervous System, Orfila on Arsenic. Those are all the Courses of Lectures published up to the present volume.

Mr. Close is probably right, but it is difficult to refuse every importunate applicant.

A. B.—*Gentlemen in A. B.'s position may be retained in office in the event of their obtaining the Commissioner's leave, or in the event of no doubly qualified candidate presenting himself.*

THE MEDICAL TIMES.

SATURDAY, JANUARY 28, 1843.

Si judicas, cognosce.

HAVING in preceding numbers considered the medical arrangements of Austria and Prussia, we are now led, by a natural transition, to the MEDICAL ORGANIZATION OF BAVARIA, a kingdom in which, from the high intellectuality and daring zeal for all kinds of improvements characterizing its monarch, we may expect, and not vainly, to find our profession a little better regulated, and marked by somewhat more of symmetry than in some older monarchies, under Governments of far higher pretensions.

The first distinguishing circumstance worthy of remark is, the absence of our division of Surgeons and Physicians. Each member of the higher body of practitioners is at once Doctor of Medicine, Surgery, and Midwifery. He is all or nothing. The earliest age for commencing his professional studies is fixed at twenty-two. Before entering himself as student, he must shew certificates of having completed with satisfaction his preliminary studies, which must include a comprehensive course of Philosophy: and he must be approved, by the Dean and Secretary of the University, as in possession of the moral and physical qualities deemed to be necessary in an accomplished practitioner. The studies occupy three years, or six sessions, take place necessarily either at Munich, Erlangen, or Wurzburgh, and are terminated by two rigorous private examinations, and the composition of a theme, in Latin or Greek, on a self-chosen subject. The diploma is now given, but no right to practice, which is only purchased by two further years' attendance on hospitals, or respectable private practice at home or abroad—and by sustaining with success an examination on practical points, before a Special Commission, formed by certain University professors, certain city physicians, and a selection of public medical functionaries.

The charges are moderate. Less than £1 paying the two annual sessions for the Professors, and £20 covering all the expencesof the examinations.

There is but one limitation of practice throughout the whole kingdom, and that is one well worthy of remark. By a recent law, the number of medical men is restricted to a certain proportion of the population: and thus our Bavarian brethren rise or fall with the rise or fall of their patients—a true sliding scale of physic. We are told, as illustrative of this singularity, that at Munich, with its 80,000 inhabitants, 87 Doctors are held to be, according to the scale, 17 too many. Till this anomaly be removed, therefore, only one new Doctor (whose title is always seniority) is allowed to enter the field of practice for every three vacancies.

Besides, however, the "Doctors," there is an inferior class of practitioners, about the policy of whose preservation there exist at present warm differences of opinion. They are called *Landarzte*, or *Beider*, bathers, or barbers. These must have finished their humanities—that is, must have acquired at least a competent knowledge of Latin, and the general principles of composition. There are special schools for them at Bamberg, Landshut, and Ratisbon—and they are not permitted to attend as regular pupils at the higher University courses. Their studies last only three years: they are then twice examined by their own Professors (the cost of all amounting to about £15), and are allowed forthwith to enter practice, which is, however, limited to the division of the kingdom in which they were educated, unless they submit to a second examination. Their duties are restricted to the more simple medical and surgical cases, and to midwifery. If they venture on cases not sanctioned by the law, they are liable to penalties of from 30s. to £10, to imprisonment, and to loss of their diploma. Their numbers are regulated, also, on the principle of the sliding scale. In cases of

a too healthy neighbourhood, these subordinate practitioners have permission to eke out an income by acting as bathers, barbers, or hair-dressers.

The Army Doctors in Bavaria offer little requiring notice. Their education, examinations, and titles, are identical with those we have already described: they are at full liberty to practice in or out of service, which they can leave at pleasure.

The Medical Organization of Hesse Darmstadt is similar, in reference to the two grades of the profession, but different with respect to many of the details of education.

Preliminary education is proved by candidates for the Doctorship, either by certificates of a completed college course, or by a practical examination—a wise and very liberal arrangement. The only school of medicine is at the University of Giessen, where the students must pass at least two years. A third year is passed in hospital attendance, which may, however, be spent in any German or foreign medical institution. The course of study followed, is according to the preference of the student; but, on examination, he is required to prove by certificates that he has attended courses of mathematics, natural history, logic, psychology, chemistry, botany, therapeutics, medicine, surgery, general pathology, anatomy in all its branches, physiology, midwifery, jurisprudence, diagnosis of diseases, and operative surgery. The examination lasts several weeks (*five* being the minimum). The answers are both oral and written; which, if found satisfactory, are followed by a printed thesis, the propositions in which the candidate is obliged to sustain in public, before the University Professors and the City Doctors. In cases of extreme timidity, a dispensation is occasionally accorded, when the candidate does not aspire to a Professor's chair. The diploma when given, gives the universal right of practice, except in *public* employments, where an additional examination is required.

Here, as in Bavaria, the *Wundartze* exist but in a smaller proportion, being but as six to ten. Their examination lasts only about two hours—about an hour and a half longer than that of our candidates at the College of Surgeons.

PENCILLINGS OF LIVING MEDICAL MEN.

Mr. Frederick Tyrrell.

Next in order after Mr. Green comes Fredk. Tyrrell, Senior Surgeon to the Royal London Opthalmic Institution, Surgeon to St. Thomas's Hospital, Professor of Anatomy and Surgery to the Royal College of Surgeons, &c. &c.

If the remark of Marcus Aurelius be correct, that a man full of talent spreads around him a performance of a characteristic nature—that his soul and his disposition can be seen in his acts, if physiognomy may be placed, as Bacon laid it, in the fixed sciences, Tyrrell's face ought to be what it is not—"the tablet of his thoughts." But, although the *mens divinor* has taken up its abiding place under an humble roof, he can cite the similar examples of Zeno, of Æsop, and Socrates, and other great worthies, ancient and modern, and console himself with the fact that the poets who wrote the best comedies and epic poems were, like him, bilious, melancholique, and triste in appearance. A heavy, dull, sallow, saturnine caste of countenance, shaggy iron-grey brows, small grey retrocedent eyes, prominent bulbous shaped nose, long thick *un*aristocratic upper lip, cheek bones, too forward to be handsome—yet aiding to give an appearance of firmness and squareness to a face otherwise too long, too monotonous, and too unrelieved to be accurately or expressively intellectual.—so composed is the face of Tyrrell: the details would seem to contradict the general configuration; for, when the eye is lit up, and he is animated, it presents a pleasing prepossessing, agreeable, *tout ensemble.* He is about fifty-six years of age—of a square robust figure, and about the middle height; his thoracic developments, round and spacious, gave promise of many years of unimpaired health, which, we regret to say, have not been realized. His manner as a lecturer was always heavy—the tones of his voice and the action with which he tries to give effect to his language destitute of variety: his articulation is thick, yet distinct, but marred by the sameness of his voice; his gestienlation consists of a slight movement of the head; his matter, not being original, or enlivened by anecdote or illustration, does not improve his manner. You might as well expect the moss rose, or the lily of the valley, to bloom in Puddle-dock or St. Giles's, as to look for a scintillation of genius or electricity, or a brilliant and eloquent idea in any portion of the oral or scriptural discourses of Mr. T. His style is feeble and without polish, ancient or modern; it is certainly unlaboured and in keeping with his sentiments. They say the character of the man is moulded from the accidental impressions of childhood. Tyrrell, then, must have been born near a churchyard. In his deportment to the pupils he is firm, precise, and formal,—mistaking taciturnity, for tranquil dignity, and pomp for pride. Some regard this with a more favourable eye, and look upon it only as a proper degree of distance, which every professor should assume to repel freedom or familiarity. We think he feels the elation of his station; he looks down upon the inferiority of others; he is, therefore, a haughty man. The proud man is he who dwells with complacency upon his own perfections. His cold and distant behaviour towards his brother practitioners—his imperious bearing towards the officials at the college and hospitals—prove him to be, if not a proud, certainly a conceited man.

His indisposition prevents his attendance regularly at the hospitals. The labour of lecturing is out of the question. Formerly he was very industrious, and his clinique was practically instructive on the principle that there are sermons in stones and books in running brooks.

He is the son of the chief remembrancer of the City of London. By his municipal influence and apprenticeship, he was favourably introduced into St. Thomas's Hospital. He arrived at the object of his ambition through the royal road of matrimony; he wooed and won the niece of Sir Astley Cooper, when the power of that worthy baronet was paramount; he is thereby brother-in-law to Bransby Cooper, and of Aston Key, who was also fortunate enough to secure professional promotion on such easy and agreeable terms. Sir Astley Cooper was not *only* an able surgeon, a successful lecturer, and a consummate diplomatist; under his directions, love was made the handmaid of fortune and of interest. By the assistance of his friend, the Treasurer, he afforded us a very pleasing refutation of a very vulgar notion, that marriage was "a lottery and made in heaven;" for all those fabricated in Guy's and Thomas turned very fortunate for all parties, and he succeeded in thus comfortably disposing of all his relations and connections. Whilst many in the buoyancy of their youthful ardour, in the golden hours of their young hopes, were wasting the spring-tide of their strength, the noon of their manhood, in scientific pursuits, cultivating an honourable name, and flattering themselves that by their contributions to knowledge, they were acquiring a fame that would give them claim to fill situations of responsibility, utility, and distinction: whilst genius pre eminent, is thus toiling up the rugged steep ascent, with its untiring energy and enthusiastic isolation forcing its way through mountains of difficulty towards the bright goal that acts as its incentive, and calls forth all its latent resources—another secures the prize that should reward "the toils which to this summit led," and not by talent, not by study, not by merit, or acts of high emprize,—the legitimate avenues to such public appointments—he takes the roseate path of amorous dalliance—the well counterfeited sigh—the stolen glance, that so rapturously and eloquently heralds the heart's wishes, or the passions' promptings—the hand delicately, yet expressively, impressed in the mazes of the dance, introduce the favoured one into the porch of science, into the very sanctuary of the sterner maid. He wins fame and fortune; he carries off the prize; Venus proves more powerful than Minerva. Genius, disappointed, mortified, disgusted, retires from a contest frequently from a profession that holds out no inducements, that offers no rewards, that presents attractions only to *deceive.* First-rate men are thus lost to society. The exciting, the active spirit, the enthusiasm of discovery which is the master element of commanding genius is destroyed. The effects of the blighting system of patronage are retardation of scientific improvement; the discontent and degradation of the moral character of the profession. The sycophancy of a great man, the sympathies of sectarianism, the predilections of faction, the favours of the fair sex, are the most efficient means to promote our prospects in life. All are placed in the unworthy foundations of extraneous patronage.

In 1825, Mr. Tyrrell commenced an action against the *Lancet,* in which, we may say, he was defeated. He was described as the prince of medical dunciads. His notes and illustrations of Sir Astley's lectures would seem to justify the correctness of the epithet.

Common place remarks, wretched composition, inappositeness of the cases adduced, puerility of the inferences, satisfied Sir Astley that a man had no greater enemy than an injudicious friend; and he published his lectures freed from the dead weight of Tyrrell's lucubrations. Between this and the publication of his work on the eye, he confined himself to clinical lectures. His observations on diseases of the hip are practically useful; here, as in the work to which we shall advert, he never gratifies his hearers with a discussion of other plans, or by adverting to the opinions of others. Counter-irritation and generous constitutional treatment are his curative principles.

In 1840 he published a practical work on the diseases of the eye, in 2 vols. He says, "my knowledge has been collected as the industrious bee collects its store from cultured and uncultivated sources, and as the provision

of the busy insect is said to be most precious when obtained from uncultivated flowers; so I consider that I have gained my most valuable knowledge from observing nature simply, but closely, and, I trust, without prejudice." In his introduction we are treated very gratuitously to elaborate encomiums upon Dr. Farre, and a few sentences upon that truly deserving man, Mr. Saunders. "My own labour has been simple, for I have had but to pursue the path marked out by Mr. Saunders. My endeavour has been to render the path more distinct and easy for others, and in doing so, I consider that I have opened some new prospects which would *probably* have been done by Mr. Saunders, had he lived to carry on the plan which he commenced in so *masterly* a style."

He commences with a very ordinary essay on diagnosis. He then gives a few simple but serviceable suggestions as to the mode of examining the affected eye. He is averse to large abstraction of blood in general, "just so much as to *relieve* the tension of the arteries. He is favourable to fomentations and opposed to cold lotions applied for hours together as is frequently the case. Counter-irritants he applied in the neighbourhood of the eye—Blisters and issues behind the ears. The introduction occupies one half the 1st. volume He begins the work itself with a very defective description of the anatomy of the conjunctiva, and its morbid conditions of which he makes the following varieties:—

Simple Opthalmia.	Chronic Opthalmia.
Pustular.	Strumous ditto
Catarrhal Opthalmia	Exanthematous.

In simple opthalmia or conjunctivitis when it depends on functional derangement, a plain nutritions diet, a moderate proportion of animal food—a glass of wine and water—1 grain of calomel, and 3 of blue pill every night, and some compound decoction of aloes with tincture of senna and manna every morning, tepid water to the eyes, and blisters are his customary remedies. Such objectionable expressions as the following frequently occur. "The effect of the local treatment is beautiful! To a peculiar condition of debility he gravely assigns symptoms, the most prominent of which is a feeble *pulse!*" Dr Farre, he says, recommended a beneficial change of constitutional vigour! In obstinate and irritable cases, change of climate is beneficial. He comprehends the Egyptian, the gonorrhœal, and that of neo-natorum under purulent. This is a valuable chapter. Bleeding, nauseating doses of tartar-emetic; mercury to check adhesive effusion, local bleeding. The disease when specific should be treated more actively at first. Strong solutions of nitrate of silver at the commencement. When chemosis of the cornea takes place it adds fuel to *fire*.

"The constant failure of all ordinary modes of treatment in the second stage of purulent inflammation, when complete, led me frequently to close and attentive consideration of the subject—and eventually induced me to adopt a plan for its relief. I became satisfied from careful observation, that the cornea did not derive *its life* from the inflammatory action affecting its structure, and I also ascertained by other morbid conditions of the conjunctiva and cornea, that the former was the principal channel by which the vessels of the latter passed for its supply and nutriment. It was easy then to conclude, that the chemosis, by mechanical influence, produced arrest of circulation, or strangulation of the vessels in the conjunctiva over the margin of the cornea and sclerotica, and that thus the cornea and its conjunctival covering being deprived of nutritious fluid lost their vitality or (as he says in other places) lost their lives." The remedy that suggested itself was the free division of the chemosed part, so as to relieve the tension of the conjunctiva, and to allow of the escape of fluid from the subjacent cellular tissue, as in cases of severe phlegmenous inflammation.

In the plan proposed, the incisions are to be made through the sclerotic portion of the conjunctiva, and the subjacent cellular tissue, beginning at the margin of the cornea, and extending towards the orbit in a direction as *rays radiating* from a centre, but avoid immediately the transverse and perpendicular diameters of the globe, that the large vessels passing to the cornea might not be injured. In several cases I found it successful beyond my expectations. Locally, after the division of the chemosed part what must be free, simple fomentations for twenty-four hours. In case of pain returning, leeches to the palpatræ freely after the pain has subsided to be made astringent by alum. If the anti-phlogistic plan be pushed too far there is an obstinate chronic stage of the disease which is avoided by moderately, generous diet. In Lawrence's work of 1834, there is no allusion to this mode. Purulent opthalmia in the infant commences most frequently on the third day after birth. First and most common cause, a morbid, vaginal secretion from the mother, leucorrhea; second, gonorrhœa; third, exposure to damp and moisture. He applies a leech or two to the lids, and, if necessary, he would divide the chemosed part. Has he ever done so? No; but a weak solution of alum in poppy decoction to be used frequently, 2 grains to the ounce. The cornea becomes nebulous and vascular from the long continued inflammation of the palpebral portion of the conjunctiva acting as a mechanical irritant. To this granular state, he applies a solution of diacetate of lead. Then comes the anatomy and description of the cornea and its pathological conditions after ulceration. In prolapsus iridis, he recommends the use of belladonna and weak solution of nitrate of silver to excite adhesion around the edge of the ulcer. His observations on the diseases of the choroid tunic will well repay perusal. Acute retinites occurs most frequently in females between 40 and 60. Mercury, local bleeding, and narcotics, opium, ointment to temples. Functional and organic amaurosis is well described.

He acknowledges the present arrangement as far from perfect. He offers very fulsome adulation to old Dr. Farre for his able guidance during their investigation of the disease. What have their conjoint labours effected? Nothing. In strabismus, not one of the modern improvements or operations is even alluded to.

Every step of the operation for cataract is described in detail He performs keratonixis in the following simple manner: the needle should be held in the hand not occupied in fixing the superior lid, in the same manner as in the operation for depression, and the point should be introduced through the cornea, near its junction with the sclerotic at the temporal side, one flat surface being opposed to the iris. It should be carried on n the anterior chamber through the pupil, and directed to the capsula of the lens near to the upper part of the pupillary margin of the iris, where it should be made to penetrate the capsule. It should then be directed downwards, so as to lacerate the capsule perpendicularly The needle should be withdrawn as soon as the laceration is affected. He applies belladonna to the temples.

Mr. Tyrrell prefers extraction to depression, and states, that *several high authorities* prefer depression because extraction is *too difficult for them!* He contends that the radiated opacity often seen in capsular cataract is not in the capsular, but in the posterior hemisphere of the lens. He does not operate for extraction of cataract in winter.

In cases of capsular, or capsulo-lenticular cataract, Mr. Tyrrell frequently employs with advantage a modification of the anterior operation by solution, which he calls drilling A fine straight needle is carried through the cornea, near its temporal edge; it penetrates the capsule, and enters the lens to the depth of one-sixteenth of an inch. The handle is then rotated between the finger and thumb—so as to make the point act as a drill. This is repeated every three or four weeks in a fresh point of the capsule; it causes no inflammation, but excites absorbtion.

Throughout the work there is not the least allusion to the labours of Lawrence, or others. Now this absolute absence of reference to others is a singular feature in this department of surgery. He was determined to avoid the fault of Lawrence: too much description of the plans of others, and too little of his own. The judgment evinced by Lawrence in the selection of his matter is admirable,—there is two much labour in it, there is too much learned compilation, and too little of the result of his own experience; but it is a mine of information—an immense mass of knowledge, collated from all writers on the subject. This and McKenzie's learned and comprehensive work are most read—Middlemore and Guthrie next; the last work, most certainly, for artificial pupil, above all the others. His heroic treatment of opthalmia by the ung. opthalmicum magnum is worth reading.

The value of Mr. Tyrrell's book is the detail of his medical treatment; in other respects, it is inferior to the German and English works that preceded it. His anatomical descriptions are faulty and inaccurate,—for this there is no extenuation: yet he is the most successful operative oculist we have It would appear that anatomy and practical medicine do not move in parallel lines. His views are unscientifically urged. In almost hopeless cases, his generous diet and tonics performed miracles. Bark and carb. sodæ, with mild mercurials, in particular cases His deliberate protest and predictions against operative proceeding in squinting are very foolish and unfortunate.

It is a well known fact, that with extensive chemosis there are conditions of the cornea that indicate increased vascular supply of that part,—viz., ulcers, suppuration, and interstitial deposition. If, again, the supply to the cornea is thus cut off, why does it not slough in its entire structure. Chemosis is a frequent consequence of gonorrhœa, opthalmia, and of the operation for strabismus often to a great extent; so as to conceal the whole of the cornea —yet sloughing does not occur. Romer and Pampperheim injected the cornea, and demonstrated the posterior vessels from the sclerotic trunks; Valentin and Lawrence are of the same opinion. He very truly remarks, that, if those favourable results should be confirmed, the treatment will constitute a valuable addition to our means of contending with a violent, rapidly destructive, and most alarming disorder. By enquiries we have ascertained that this improvement upon Scarpa's plan is rarely had recourse to at the Opthalmic—that it is fast falling into desuetude. The style of the work is diffuse; it was written for Mr. Tyrrell by Mr. Leach, a literary man, who has brought out some works for students preparing for the hall. We believe that numerous avocations

See page 133

and a delicate state of health, prevented Mr. Tyrrell writing it himself.

In 1839 he read a paper upon nœvus at the Chirurgical Society. Some years ago he had a controversy with Dr. Blicke, in which the brothers-in-law figured in a very strange light, Dr. Blicke, in his analysis of the evidence which he published at the time, was very severe upon them. Key and Tyrell became bewildered in the cross-examination, and contradicted each other, In the case of Beale, v. Self, these two gentlemen appeared in the same capacity to support Beale, who had been Mr. Tyrrell's dessecting porter. We have seen the certificate of Mr. Story and others who attended lectures at the time, stating that no such person was known to them. Now these gentlemen had better not hunt in couples any more; it may be very convenient to have a relation to prove one's view of a case, and bringing in the weight of situation, they may hunt down the general practitioner; but re action will follow. Let it not occur again; the timidity they displayed was witnessed by hundreds of practitioners, many of whom are not afraid to grapple with them, if an opportunity should occur. Verbum sap. sat.!

Tyrrell and Liston have both declined giving the Hunterian oration; one on account of illness—the other feels that "he is no orator, as Brutus is." Arnott is preparing for the task.

Mr. Tyrrell is now a finished, a safe, an elegant opthalmic surgeon. His manipulations of eye and instruments are perfect. His treatment we have praised before. He is at the head of the scientific oculists of this country.

PROBE.

EXTRAVASATION OF URINE.

PHYMOSIS.—INFILTRATION OF URINE.—URINARY FISTULÆ—SLOUGHING OF THE SCROTUM.

By W. Smith, Esq., Brompton, Kent.

JOHN PHILLIPS, aged 29, contracted gonorrhœa on the 30th Oct. 1842, and on the 1st of November Orchitis succeeded. The prepuce was much swollen, and it was found necessary, by another medical man, to divide it partially in order to relieve the tension. Aperients were administered with tartar emetic and poultices were applied; but not finding himself any better, he applied to me for further medical advice; when he presented the following appearance.

The scrotum was very tumid, of a dusky red colour, tense, and three or four times its natural size; the perineum was equally red and tense, and presented all the appearances of infiltration of urine. He had a severe gonorrhœa with intense scalding, phymosis, and two large ulcers on the dorsum of the penis, extending into the urethra, and allowing the urine to escape. Pulse 120, and full. Bowels open; tongue white, and loaded; skin hot and dry; mouth parched.

Several longitudinal incisions were made through the tegument of the scrotum, and it was found necessary to divide the remaining portion of the prepuce, from which about three ounces of very fœtid pus escaped. Through the incisions made in the scrotum, a quantity of urine-like fluid escaped guttatim: warm fomentations were kept applied upon the parts, and the following medicines administered:—

℞ Infus. Sennæ Co. ℥ij. statim.
℞ Ant. Tart. gr. ¼
Pulveris Opii. gr. ¼
Hydrarg. Chlorid grs. iij. ft. pulv. 1, 4tis. horis, sumenda.
Cataplasma.

3rd. November.—Feels much relieved to-day from the fomentations. Scrotum not so much inflamed; Pulse 98, and soft; skin moist; bowels open; tongue clean; urine (drawn off by a catheter) natural.

℞ Sol. Calcis Chlorid ℥ss.
Aquæ lb. 1. ft. lotio.
Rep. Pulv. et Cataplasma.
℞ Tinct. Opii. m. xx.
Liq. Ammon. Acet. ℥j.
Aquæ. ℥ss. ft. haustus hora somni sumendus.

4th November.—Much better. Pulse natural; skin moist; bowels open; tongue clean; scrotum much reduced, and feels quite easy.

Rep. Pulver 6tis horis.
Cataplasma.
Rep. Pil. Calcis Chlorid.
Rep. Haust. Anodyn.

5th November.—Scrotum natural size; pulse natural; skin moist; tongue clean; bowels open. A sinus was discovered extending above the pubis on the right side, and communicating with the urethra; an incision was made on a directer, and a quantity of pus flowed out.

Rep. Cataplasma et Haust.

6th November.—Slept very badly last night; complains of pain in the scrotum, but in other respects, easy. Tongue clean; pulse natural; bowels open; skin moist. On examining the scrotum, I found it soft and fluctuating about the lower third, and very painful; thinking that pus might be burrowing there, I introduced a directer at the ulcer on the dorsum of the penis, and found it pointed at the soft part in the scrotum. I therefore laid it open for about two inches, and about six ounces of pus escaped, which gave him great relief. Charpie râpee was introduced, and a poultice placed over it.

Rep. Haust et Lotio Calcis Chlori.

7th November.—Slept well; feels much easier; pulse natural; tongue clean; bowels open.

Rep. Haust et Lotio.
Cataplasmata.

8th.—Continues to improve.

Rep. Haust et Lotio.
Cataplasmata.

11th.—Continues to improve; bowels constipated.

℞ Infus. Sennæ Co ℥ij. statim.
Rep. Haust et Lotio.
Cataplasmata.

15th.—All inflammation in the scrotum and penis has subsided, and it was now found necessary to bring the edges of the wound in the pubis together. Pulse natural; skin moist; bowels open; tongue clean.

Rep. Lotio et Haust.
Cataplasma.
Charpie Râpée.

20th Nov.—Much better; wound in pubis nearly united; pulse natural; tongue clean; bowels open; skin moist.

Rep. Lotio.
Charpie Râpée.
Cataplasma.

25th Nov.—A sinus formed (through which the urine escapes), extending from the dorsum of the penis to the lower third of scrotum. I therefore introduced a gum-elastic catheter, which he is to wear constantly; applied some cupri sulph. and charpie, and brought the edges together. Bowels open; tongue clean; pulse natural; skin moist.

Rep. Lotio et Charpie Râpée.

30th Nov.—Wounds in the pubis; prepuce; and dorsum penis quite healed; urine passes through the catheter easily, and since wearing it he has not had any pass through the sinus in the scrotum, which is healing up quickly; all but one part near the raphé which looks sloughy; pulse, bowels, and tongue natural.

Charpie Râpee.

4th Dec.—Slough in scrotum has come away, and is now healed up; a few fungous granulations remaining in the centre of the cicatrix. I applied some nit. argent, which soon destroyed them; bowels constipated.

℞ Infus. Sennæ Co ℥ij. statim.

7th.—The wounds have all healed up; he discontinues the catheter, and as he is now quite well, it is unnecessary for me to attend him any longer.

ROUGH REPORTS FROM GUY'S.

PHYMOSIS AND BUBO. Bartholomew Scandal, æt. 19, was admitted into Guy's Hospital Nov. 16th, 1842, under Mr. Aston Key. He was of a spare, pallid, and strumous habit. Phagedenic sore at the end of the urethra; partial phymosis from thickened prepuce, (five weeks); suppurating bubo. 17th. Epithema plumbi applied to sore, poultice to bubo, and potass iodid grs. v., ter. die. ex dec. sarsæ comp. 19th. Bubo opened, poultice applied. 21st. Phymosis disappearing, sore looking healthy. 25th. Sore covered with a layer of yellowish white fibrine; still strongly touched with argent nitrat. Dec. 2d. Phymosis healed, bubo healed,—to apply emplas. ammon. chyd. Dec. 6. Presented cured.

CHRONIC ENLARGEMENT OF TESTES, WITH HYDROCELE. John Palmer, æt. 23, was admitted into Guy's Hospital Nov. 16th, 1842, under Mr. Aston Key. He has chronic enlargement of testes, and hydrocele on the right side, with superficial ulcers on the legs, (two months.) 17th. Pil. hydd. ℈i., potass iodii. ʒii. ft. pil. 60, 1 ter. die., ung. resinæ to sores. 21st. Hydrocele lessening, ulcers on legs much improved by poultice alone. 24th. Mouth touched, pil. i. bis. die.; sores improving; hydrocele lessening. Dec. 2d. Sores on legs healing fast. Dec. 8th. Sores healed, and hydrocele quite disappeared. Presented cured.

PERISCOPE OF THE WEEK.

ORGANIC CHEMISTRY.—The following is an analysis of the milk of a woman, a cow, and an ass, made by Dr. Playfair:—

	Woman.	Cow.	Ass.
Casein......	1·5	4·0	1·9
Butter......	4·4	4·6	1·3
Sugar	5·7	3·8	6·3
Ashes	0·5	0·6	—
Water......	88·0	89·0	90·5

The casein is the nitrogenised principle which affords nutriment to the muscular and other tissues. This is in greatest quantity in the cow. The butter and sugar are the combustible materials which by their combustion supply heat to the body. The ashes consist of phosphate of lime and common salt, both of which materials are necessary for the healthy function of the body. Thus, we have in milk all that is necessary for the growth of the body, and it is the type and representative of all food; for unless food contain the principles of milk, it is not fitted for the purposes of the body. Casein is the principle of cheese. In its ordinary state, as made for the food of man, cheese contains both casein and butter. The stomachs of young animals are not adapted for separating the nitrogenous principles from food, and the casein of milk is supplied to them ready separated. All food for weaning children should be prepared on the model of milk, changing the relations of the nitrogenised to the carbonaceous materials only as circumstances require. In the milk of the cow the carbonised materials are as two to one, but in the food of adult animals they are as six to one. The large quantity of casein in milk is required for the rapid development of the body; the butter, a highly carbonized material, is required for supporting a large amount of animal heat.

GENERAL EXUDATION OF MILK—Dr. Rasi cites a remarkable case illustrative of the phenomena af metastasis. An usually healthy and robust peasant woman, twenty-seven years of age, was obliged, by broken breast, to wean her infant. Subsequent to this, owing to vaoious imprudencies which are not particularised, the secretion of milk suddealy

stopped, simultaneously with which the joints of the lower extremities became affected with sharp pains. The patient was at first treated for arthritis, by ordinary antiphlogistic methods. The joints, however, were neither painful on pressure, nor exhibited the blush of inflammation, and much doubt was entertained as to the real nature of the disease; when, on the 17th day, after an abundant perspiration, the whole surface of the body became covered with specks of a whitish colour, strictly similar in appearance to those seen in military disease, but which, in about twenty hours, became converted into vesicles, containing a white fluid, to all appearance resembling milk. This fluid was somewhat heavier than water, slightly reddened turnsol paper, was not coagulated by acids, and when submitted to the action of ether, gave origin to a deposit of white filaments, which, treated with dilute hydrochloric or acetic acid, dissolved completely, thus manifesting their identity with the caseum of milk.

Phymosis and Paraphymosis—their Treatment.—For those conditions of the prepuce, belladonna has been recommended by some French physicians: an ointment of 30 parts of cerate to half-an-ounce extract of belladonna, to be rubbed hourly over the prepuce or dens penis, witth the further addition of an opiate in the event of much inflammation and pain. In phymosis, a solution of four grains of extract of belladonna, and half of aqueous extract opii in an ounce of water is advised; to be applied by sponge, or as an injection between the prepuce and glans, with warm baths of infusion of belladonna to the parts affected. Mr. Lane enjoins low diet, the horizontal position, saline aperients, and antimonials for phymosis, with lotio plumbi, fomentation of poppy-heads, and bread poultice as local applications. Leeches are not generally desirable. In severe cases take blood from the arm, however, and nauseate with antimony.

Statistical Record Respecting Cancers.—Of 134 operations for this disease performed at the Hotel Dieu in Paris, during the five years, from 1836 to 1840, inclusive, 95 were for the excision of cancers from the breast, and 29 for the ablation of the testicle. Of the 95 subjects of breast-operation, (91 females) 75 recovered: the remaining 20 died—4 between the 5th and 10th days after the operation; 7 between the 10th and 20th; 4 between the 20th and 30th, and 5 from 1 to 2 months afterwards. Of the 39 subjects of castration, 5 died—3 before the 6th day, 1 on the 9th, and 1 two months after the operation. Of the 91 female cases, 75 occurred in married or widowed females, and mostly between the age of 40 and 50; while the diseases of the testicle were found to prevail mostly before the age of 40 years.

Seminal Emissions.—For these and like debilitating occurrences, in the genito-urinary organs, after all exciting causes have been removed, Mr. Phillips advises the application of nitrate of silver within the urethra. For exploring the canal, Mr. Phillips prefers an elastic catheter, in passing which into the bladder, denotes accurately the point where the pain produced is the most acute. He then arranges the caustic apparatus, so that it shall not reach so far by an inch; the prostatic portion of the urethra being seldom implicated in the irritation. The place where the caustic has commonly to be applied, is as nearly as practicable about the orifices of the ejaculatory ducts. The caustic, having been exposed at this spot, may be slightly revolved along the floor of the urethra for half a minute, for it seldom excites much pain. Some smarting on the passage of urine, and discharge may be produced; but these symptoms abate in a few days, and the condition of the patient is often changed greatly for the better in a few weeks, and without further use of the remedy.

Coming Events cast their Shadows before.—The observation "Nascitur, non fit" will certainly apply, not only to the poet, but to the painter, the physiologist, the surgeon, &c. That this is fully true respecting the latter, is instanced in the following anecdote of a late eminent member of our profession. Astley Cooper was nursed by a foster-mother. A son of this person, somewhat older than himself, had been ordered to convey some coals to the house of the vicar. While on the road, by some accident, the poor lad fell down in front of the cart, one wheel of which passed over his thigh, causing, amongst other injuries, the laceration of its main artery. Sinking from loss of blood, he was carried home; where Astley Cooper, having heard of the accident that had befallen his foster-brother, directly arrived. All was alarm and confusion—when the young Astley, in the midst of the distressing scene, alone capable of deliberating, and perceiving the necessity of instantly preventing the farther loss of blood, had the presence of mind to tie his pocket-handkerchief around the injured limb, so tightly that it acted as a ligature upon the wounded vessel. The bleeding was thus stopped, and the life of the patient preserved, till further assistance was obtained; and this was the successful debut of Sir Astley in the art in which he afterwards became so distinguished.

Painter's Colic—Means of its Prevention.—A formula is given in a contemporary journal for the manufacture of *sulphuric beer* which has been found an effectual preventive of colic in some extensive lead works at Birmingham, when taken as a beverage by the workmen. Take—of treacle, 15lbs., bruised ginger 8 oz., water 12 gallons, yeast a quart, bicarb. soda 1½ oz., sulphuric acid, 1½ oz., (by weight). Boil the ginger in 2 gallons of water; add the treacle and the remainder of the water, hot. When nearly cold, transfer it to a cask, and add the yeast. When fermentation is nearly over, add the sulphuric acid, previously diluted with eight times its quantity of water; and then the bicarb. soda dissolved in a quart of water. Close up the cask, and in three or four days the beer will be fit for drinking. The sulphuric acid remains in considerable excess in this preparative; which probably acts as a preservation in the system, by transforming the poisonous carbonate penetrating it, into innocuous sulphate of lead.

Treatment of Burns.—On taking a general review of the constitutional treatment of burns, the first object should be to relieve the system of an abnormal quantity of fluid that must have accumulated in it in consequence of the arrest, to a greater or less extent, of so important a secretion as the perspiration. This may be accomplished either by the administration of diuretics, by guarded blood-letting, or by encouraging the process of suppuration. Secondly—any appearance, however slight, of supervention of inflammation in the organs contained within the head, chest, or abdomen, should be watched with the utmost anxiety, and treated, if it does occur, as actively as the circumstances of the case will admit. Thirdly—the process of suppuration should be maintained or arrested with a due regard to the state of the internal organs and the condition of the powers of the system.

Medical Statistics in Portugal.—An army hospital report states that, in all, 4,485 cases requiring medical treatment had occurred in the Portuguese army in the first half of 1838. The number of syphilistic cases, primary and secondary, had been 700; of gastro-entirits, 283; and of bronchitis, 340. The great relative proportion of the last to many other complaints, specified, is both striking and startling. Portugal being a country to which persons with chest disease have been so often expatriated from this country, nominally for their benefit. But, in reality, Lisbon, &c. have been cried up greatly beyond their merit, as places of resort for invalids; for whom many sheltered places along our southern and western coasts would be found much more beneficial.

Opium.—This remedy would seem in some maladies to exert an effect which can hardly be traced to its sedative properties, but appears almost of a specific nature. A case is reported of a lady, 80 years of age, a pimple on whose finger brought on much pain, with swellings in the glands of the arm and axilla of that side, and was supposed to be of a cancerous nature. Nitrates of silver, and mercury, iodine, *pills of mercurial ointment*, purgation, and a host of other remedies were taken without effect. The pain and sleeplessness of the patient increased, and the wart had increased to a bleeding and ichorous tumour. Local baths of poppy and belladonna were ordered, with half-a-grain of watery extract of opium every night. All the previous symptoms now gradually disappeared; and in two months a mere trace was visible of the original formidable swelling.

Cochineal in Hooping Cough.—Dr. Waehtb of Vienna has elicited the best results from the employment of cochineal in the above disease, the use of which was suggested to him by an English periodical. He uses a mixture composed of cochineal, 10 grains; bitartrate of potass, 20 grains; sugar, an ounce, and water, 6 ounces; of which a tea-spoonful is a dose. In nine cases which he cites, it had produced a cure or convalescence, in periods varying from 3 to 11 days. From the disposition to putridity of the cochineal, no more should be dissolved than is required to last from 36 to 48 hours:—warm water is required for its dissolution. This remedy is observed to be very efficacious, also, in the cough which accompanies measles.

Chemical Decomposition.—Persoz distilled gluten with sulphuric acid and chromate of potassa, and obtained as products, first, carbonic acid, and afterwards prussic acid. The residue contained chromate, alum, and sulphate of ammonia; it seems, therefore, that gluten yields, by oxidation, nothing but carbonic and cyanic acids and ammonia.

New Remedy.—Rheumatism, glandular enlargements, neuralgia facialis, &c. are said to have been cured in from 8 to 15 days, by the bi-sulphuret of carbon, externally or internally applied. A celebrated Danish professor orders 4 drop doses of a mixture of one part of the bi-sulphuret, and two of rectified spirit to be taken every two hours, or on external application, an embrocation of one part of the bi-sulphuret to two of olive oil.

Successful Treatment of a Fractured Thigh.—The vis medicatrix of nature has exhibited itself in a remarkable manner in the following case, occurring in the practice of a medical man near the metropolis. Mrs. F. æt. 89, of a spare frame, and temperate and regular habits, sustained an oblique fracture of the thigh bone, near its centre. She was immediately placed in bed, and the limb was encased in pillows. Next morning the fractured portions were placed in exact apposition, and kept so by judicious means till the forty-fourth day. At

this period the apparatus employed for the latter purpose was removed, and the fractured part was found to be firmly united, allowing of motion in any direction. In a few days the patient was enabled to put her foot to the ground, and even to step on it. Little time elapsed before she could move about without the aid of a stick, and in less than four months from the time of the accident she was quite enabled to take exercise out of doors, the weather permitting. No deformity exists in the limb. This case is well adapted to encourage surgical practitioners, particularly the junior portion, not to be too despondent of osseous union after fracture, even in patients so advanced in life as the subject of the present instance.

Secretions in Diabetes.—In this disease a practitioner of Bonn has found not only the urine, but the perspiration of the patient also to contain sugar. The same substance wa found in the saliva, which, on being treated with yeast, underwent vinous fermentation. The presence of sugar in the perspiration, &c. of diabetic persons is, however, not constant, as proved by our countryman, M'Gregor. Lehmann, also, was unable to detect it in the saliva of more than one in three persons affected with the disease.

Grafting Extraordinary.—The singular experiment of transplanting a cornea belonging to one animal to the eye of another deprived of that part, has been tried in Germany, and found successful; that is to say, the newly implanted cornea forms an union with the structure in contact with which it is placed. The same event happens even if the cornea in the eye on which it is grafted belong to animals of a different species! And it is further said that the experimenters have been able to procure a partial transparency in the cornea so treated, without which indeed the value of the experiment must have gone for little or nothing.

Formation of the Red Globules in the Blood.—Dr. Remak, whose observations on the minute anatomy of the nerves have become well known to the medical world, has turned his attention also to a microscopic observation of the blood globules He has seen the red globules in the blood of an embryo chick as early as the third week of artificial incubation, as well as in the embryo pig, an inch in length, in which last he finds they are from four to six times as large as in the full-grown animal. To ascertain the mode in which the red globules are reproduced, Dr. Remak took from a horse 30lbs. of blood on one occasion, and removed a less quantity for several successive days afterwards. On the first day the red globules were very abundant, while only a few colourless globules were present. Next day the latter were numerous and mostly enlarged, having in their interior one or more globules of a pale red colour, surrounded by small granules. On the fourth day it was obvious that red globules, similar to those existing in the blood in an independant state, had been formed within the larger colourless globules, and set free by the bursting and disappearance of the latter. According to Dr. Remak the clot formed in blood after it has been drawn, is in a great part formed of the films of the colourless globules, correlative to the number of which is its degree of softness.

Malformation of the Heart.—An instance of this kind occurred in a child, which when four months old was sent to the Foundling Hospital in Paris, and which died in the infirmary there of dyspnœa, after general cyanosis, in less than a fortnight afterwards. On opening the thorax nearly all its anterior half was occupied by the pericardium, and on laying open this, it was seen that the heart consisted of only one ventricle and one auricle, the deep sulcus between which was filled with a process of the liver, and a part of the diaphragm. The auricle was much larger than the ventricle, with parietes very much thickened, and at its posterior part the two venæ cavæ opened into it by a sort of sinus, apparently a rudiment of a right auricle. The pulmonary veins terminated in the ordinary manner. The ductus arteriosus was wanting. No other viscus was malformed.

Aneurism.—Two remarkable cases of this disease have been recently made public—one affecting the ascending aorta, and the other of the abdominal portion of that vessel. The first case occurred in a short and muscular man, 35 years of age, admitted as a patient at the Birmingham General Dispensary. He complained of a short dry cough, with shortness of breathing, and a sensation of oppression at the upper part of the chest. He dates his illness from an accident he had met with about four months since, when the shaft of a cart was forced violently against his chest, in which he felt great pain for some days after. On percussion of the chest, the right side was found generally to be rather duller than the left, but not so dull as to have attracted much attention, but on auscultation, the respiration of the left side was found louder than usual, accompanied with a loud rasping sound which extended all over the left side of the chest, at its greatest intensity under the first and second costal cartilages and sterno-clavicular articulation. Underneath clavicle a peculiarity was perceived, which Dr. Fletcher thinks is not uncommon in aneurisms of the arch of the aorta—namely, the respiration was bronchial, and was interrupted, synchronously with the arterial pulsations. No normal pulsation was to be felt in any part of the chest; the man was subject to giddiness and singing in the ears, but his bowels acted well. Bleeding to twelve ounces; aperients and saline medicines were prescribed; perfect rest, with very mild and sparing diet, and avoidance of all stimulating drinks. For about a month, little permanent alteration took place in the condition of the patient, except that he continued to get thinner. At this period pain and dulness of sound in the region of the heart augmented; pericarditis supervened, and the respiration had a sub-crepitant rattle; leeches to the seat of pain and aperients were ordered, but the oppression, pain, and dulness continued to increase. Intense dyspnœa came on, and the patient died.—On examination, about six ounces of clear fluid were found in the pericardium, about twelve of the same kind of fluid in the right pleura, and about half the quantity in the left. No adhesion in the pleuræ; left lung perfectly healthy; right lung œdematous in its whole extent. The pericardium was inflamed, and affected with hypertrophy and dilatation, like all the cavities of the heart except the left auricle, which was so pressed upon by the aneurism of the ascending aorta as to be lessened in its cavity, and to have its appendix almost completely obliterated Upon the sigmoid valves, on the posterior part of the ascending aorta was an aperture $1\frac{3}{4}$ inch in length, and in width about one-third of the circumference of the artery, communicating with an aneurismal sac, the parietes of which seemed formed of the external coat of the artery only, and which measured about three inches and a half in its perpendicular measure, and about ten inches and a half in circumference. It projected posteriorly, to the right about a third, and about two-thirds to the left, pushing down the pulmonary artery out of its normal situation and completely occupying its place, and projecting in its inferior third into the cavity of the pericardium. In this situation, its wall was so thin, that had the patient survived long, most probably it would have been the seat of rupture. On the distant side of the aneurism, the aorta seemed perfectly healthy,

In this case were several circumstances of interest. Dr. Fletcher, under whose care the patient had been, stated that it confirmed "his opinion respecting the incorrectness of that part of the late Dr. Hope's diagnosis of these diseases, where he says (in the third edition of his work on diseases of the heart) "an aneurism of the ascending aorta or arch would occasion a pulsation, murmur, or tremor, above the right clavicle or on the right side of the sternum, or above both clavicles." There was in this case no pulsation, murmur, or tremor in that situation, and Dr. F. had seen other cases in which there were not." The second case to which we have alluded, was that of a gentleman, about 38 years of age, of active habit, who complained of a pain in the back, which had been gradually increasing for a long time, and had suddenly become much more severe on his hearing some distressing intelligence six weeks previously. On examination with the stethoscope, a loud and distinct bellows-sound was heard on both sides of the spine, which, with the other symtoms, left little doubt as to the nature of the disease. The general health declined, the appetite failed, the patient gradually became weak, emaciated, and exceedingly nervous; there was strong pulsation in the epigastrium, but no tumor, nor was the action of the heart much increased; the pain in the back was of two different forms—one was a continual sense of weight and uneasiness, which never intermitted; the other was an acute, sharp, darting pain, felt on each side of the spine, recurring generally at midnight, and which, for a considerable time, always yielded to anti-spasmodic remedies. As the case proceeded towards its termination the emaciation increased, the pains became more severe, and extended into the lower extremities, particularly on the left side. In this manner six months passed away, when a rupture of the aneurismal sac, attended by symptoms, which our limits will not allow us to describe, carried off the patient. The abdominal aorta was found to give origin opposite to the cæliac axis to a tumour, about three inches in diameter, extending to the right side, projecting in front but little beyond the level of the spine. The bodies of the two first lumbar and last dorsal vertebræ had been absorbed from the pressure of the tumour, which presented a cavity filled with lamellated, dark, fibrous matter. Behind the peritoneum, on the left side of the spine, an immense clot of blood extended from the diaphragm down to Poupart's ligament, which had evidently been caused by a recent hæmorrhage referred to a period about two days previous to death. The practitioner who reports this case, remarks, that no symptom of aneurism is more pathognomonic than the pain, when viewed in connection with the other symptoms, and it was the peculiar character of this symptom which led him to diagnose aortic aneurism in the present case. Epigastric pulsation and *bruit de souffle* might occur in cases where there was no organic disease. He had met with a case of aneurism of the thoracic aorta, in which, as well as in this, the opening occurred in the posterior wall of the artery, and the pain endured by the patient was, also, of two kinds; one an aching, boring pain, which was constant; the other an occasional nipping pain, darting along the ribs or in other directions.

Imperforate Pharynx and Anus.—A curious instance of this kind lately occurred in the practice of a gentleman at Liverpool. A child of the full period, apparently well formed, lived only thirty-six hours; and death having been apparently produced by suffocation from the administration of a little cream and water, the body was opened. The pharynx, one and a quarter inch only in length, was found to terminate abruptly in a cul de sac, though the lower part of the œsophagus was perfectly formed and communicated by a rounded aperture with the trachea, just above its bifurcation. The rectum also terminated in a pouch, and communicated by an aperture with the prostatic portion of the urethra. There was only one kidney, which stretched across the vertebral column, being, however, supplied with two ureters and suprarenel capsules. No other details of importance respecting the case have been given.

Mortality from Burns.—The period at which death may be expected to occur in cases of extensive burns varies considerably, of course. But, on an aggregate of 50 cases, 33, or 66 per cent., have proved fatal in the first week—27 subjects dying within the first 4 days—and the other 6 on the 3 following days. Of the remaining 17—8 died during the second week, 2 in the third, 2 in the fourth, 4 in the fifth, and 1 in the sixth. Thus, it happens that the greatest number of deaths occur during the first few days, in the stage of congestion, or while that is passing into an inflammatory condition. After this period the mortality diminishes progressively till the fifth week, a period fatal mostly from suppuration, purulent infiltration of the lungs, &c.

Liquor Amnii.—Vauquelin and Buniva found 100 parts of this fluid to consist of 98·8 parts water, and 1·2 albumen and salt of lime and soda. Geoffroy St. Hilaire says it contains atmospheric air, but Lassaigne and Chenrevil believe the gaseous fluid in it to be a mixture of carbonic acid, gas, and azote. Tromhirz and Gangert found in it benzoic acid and urea. Dr. Davy has also detected urea in the liquor amnii, but this principle is not constantly found in it. There can be no doubt that this, and the other constituents of the urine, are secreted by the kidneys of the fœtus long anterior to birth, and that in a perfect state of the organs the urine is constantly escaping through the bladder, and mixing with the amniotic fluid. Dr. Rees had lately analyzed the liquor amnii, and found it to contain in 1.000 parts—water 983.4, albumen 5.9, albuminate of soda and chloride of sodium 1.6, and traces of alkaline sulphate.

Statistical Observation.—The twisting of the cord round the neck of the fœtus is a very common occurrence. In 1,920 cases, Dr. Churchill says it has been observed 201 times. There is no doubt that it is a very common case in protracted labour.

Causes of the Progress of Hydropathy.—Dr. Symonds, in his lecture before the British School of Medicine at the opening of the present session, attributed the popularity of Preissnitz and his system to the following circumstances. First, the system is very simple: diseases may be manifold, but the remedy is single, though variously applied; second, the universal application of the remedy seems to harmonize with its universal distribution over the globe; third, the system dispenses with the use of drugs, most of which are disageeable and many injurious; fourth, it gives ample proof of the super-abundant energies of many of the invalids who seek its aid; fifth, it generally induces diaphoresis, which is a process much in favor with most invalids. But Dr. Symonds goes on to say—"After the present popular excitement has passed away, cold water will, like all other remedies, find its proper level." (Preissnitz is singularly unfortunate in the fact of water inevitably finding its level in the end.) "The supposed universality of its powers is one of its chief attractions at present; and when that has been disproved, as it surely will be, there is ground for *fearing* that the remedy will sink in popular opinion to a degree which will be the exact counterbalance to its present undue elevation; the dyspeptic, the hypochrondriacal, the nervous, and the victims of *ennui* and satiety, as they at one time invoked the mummeries of mesmerism—at another swallowed, at the bidding of an empiric, hundreds of vegetable pills—or at another, flew for aid to Wildbad, and Baden-Baden, and Schlangenbad, and were disappointed—will not now unnaturally appeal to hydropathy, and perhaps with some better success. But the subjects of fevers, exanthemata, and acute visceral inflammations, the unhappy sufferers from organic diseases, and those who require the skilful knife of the surgeon—all, in fact, who are in the direct need of the remedial art, will, we venture to say, remain adherents of the practice which has been built upon the confirmed observation of disease for successive centuries, and upon the accumulated improvement which every year has added to the knowledge of the human body in health."

Function of the Spleen.—The attempt to determine this long contested question at present agitates the brains of many inquirers, not only in this country, but, as it should seem, by sympathy in distant British colonies also. Dr. Haygarth, a practitioner of Launceston, Van Diemen's Land, appears to accord with Mr. Eagle in considering the spleen the secretor of the colouring matter of the blood. He argues as follows:—"All the fluid productions of the system necessarily have their producing structures. For producing the bile there is the liver; for the urine, the kidney; for the chyle, mesenteric absorbents. But, is there any fluid existing in the body which has no organ assigned for the production of it? There is. What organ of the body forms the blood? The heart propels it; the vessels distribute it; the lungs aerate it; the chylous vessels supply replenish it; the kidneys and liver purify it. But what organ forms—what organ produces it? When I find a certain fluid going into an organ, and a certain fluid coming out of an organ, and none other fluid than this either coming out or going in, I naturally come to the conclusion, that such organ is for the purpose of exerting an agency over the fluid in question. The fundamental constituent of the blood,—that element which peculiarly constitutes it blood—is the red principle of this fluid. The souce rof all the other constituents of the blood can be accounted for; but in what region of the system is the red principle of the blood elaborated? I shall not here enter into a detail of those instances of impaired states of the system in which the red principle of the blood is defective, and in which, at the same time, the spleen is palpably and principally known to be at fault—such as in the pallor attending the sequelæ of intermittents, and in the systemic condition characteristic of chlorosis; but I will simply remark, that in these instances we have a visible defect in the system, and an especial organ visibly deranged; and the concomitants point out plainly enough that the one condition is dependant on the other. The spleen is the laboratory for the red principle of the blood."—A letter from Mr. Jackson, published in our last week's number, ably exposes some of that gentleman's opinions on the same subject, and contains some strictures on the abstract previously set forth of the views and discoveries of Mr. Stevens, respecting the structure and function of the spleen. We shall here give an abridged statement of Mr. Stevens' labours and conclusions, which have just been made public in a contemporary periodical: "The spleen comprises a mere congeries of capillary vessels; for, on examining the circulation in that organ by the microscope, during life, it becomes quite plain that it contains little or no intervening nervous parenchyma, or extra-vascular tissue. The ultimate capillaries are remarkably uniform in size, carrying a single file of blood corpuscles. Now capillary courses may sometimes be seen to run side by side, though in opposite directions, without sufficient distance existing between them to include anything more considerable than what may be supposed to be the coats of the vessels. I have concluded that a capillary artery and vein sometimes run together, meeting another capillary artery and vein—the artery of the first merging into the vein of the later, and *vice versa*. But such appearances are only to be detected in particular places, and upon very attentive watching, as the whole field of vision is in motion. The arteries communicate directly with the veins, and not at all with the lymphatics, as most injections of the dead organ would lead one to suppose. If the question be asked, 'What does all this blood here?" we must be content to say that we simply see it passing. The splenic artery is the chief branch of the cœliac axis; the spleen thus receives a very large portion of arterial blood, which, after traversing the capillaries of the organ, palpably without any deduction, is delivered into the portal circulation." Mr. Stevens admits that "the secretion of bile is palpably diminished when the splenic blood is cut off from the portal circulation." But the result which he gives, as that to which his microscopic observations have led him is, "that the spleen is merely the necessary interposition of capillaries between the splenic arteries and the venous portal circulation;" to avoid the "unprecedent d infringement of the laws of general anatomy—an arterio-venous anatomosis." Thus Mr. Stevens may be considered as uniting with Mr. Jackson, in regarding the spleen simply as an assistant circulatory organ; in opposition to Messrs. Eagle and Haygarth, who believe it to secrete or elaborate the colouring matter of the blood.—In this undetermined state the question still remains.

Cauliflower Excrescence of the Uterus.—A case of this kind occurred in the Dublin Lying-in Hospital: the tumour was removed by ligature. On making a section of a portion of the tumor its structure was seen to be much more complex than it had seemed when examined externally; it was finely laminated, appearing in section as if formed of somewhat parallel plates of a whitish matter, separated by reddish lines, which proved to be the layers of a beautifully vascular, and very thin membrane. In a morsel of the membrane highly magnified, Dr. Anderson detected a fine fibrous structure of great delicacy, absolutely swarming with blood corpuscles and cells, to the presence of which great part of its apparent thickness seemed due. The course and distribution of the capillary vessels could not be distinguished with sufficient exactness. Besides the corpuscles which retained their form, there were others apparently undergoing various changes,

exhibiting every variety of shape, and mixed with nucleated cells of different aspects. Of the latter, some were clear, with a single nucleus; others exactly like Dr. Barry's figures of the ovum in certain stages, being full of young cells; there were caudate corpuscles, like those Müller saw in cancer, and other bodies of various shapes. In the white laminæ, examined in the same way, no fibrous basis existed; the whole consisted of an uniform mass of cells, precisely alike, of an irregular form, from mutual compression, and full of a granular matter. On washing away the white matter, the membrane remained entire. It did not consist of parallel laminæ, but was beautifully flocculent, branching out very complexly from a thicker central portion or stalk. The cauliflower excrescence, then, has for its basis a membrane of extreme tenacity, ramifying in a most complex manner, amply supplied with blood, and possessing the power of forming from that blood a whitish cell substance, which is deposited in a layer about it. Hence each portion of the membrane forms, after maceration, a kind of lobule or flat villus, but in the recent state these adhere closely together, so as to give the whole tumour a nodulated aspect.

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SUMMARY.

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

By C. J. B. WILLIAMS, M.D., F.R.S., Professor of the Practice of Medicine, and of Clinical Medicine, at University College.

GENTLEMEN,—At the close of our lecture, yesterday, we were considering some of the varieties of morbid respiration. There are two more that may be mentioned; the regularity of the succession of respiratory motions varies not only in the two sides, but altogether; and there may be irregularity, likewise, as to the number which take place in a given time. *Frequency* is the usual standard: in an adult this is about twenty in a minute; so that there are about three pulsations, or rather more, to every respiration. But, by disease, respirations are very often much increased in number, and rise as high as sixty a minute, so as to become in peculiar diseases equal to the pulsations. They bear, however, a general relation to the pulsations, for where the pulsations of the heart are increased, the respirations are increased likewise. In many instances, the proportion of respiration to pulsation is as one to three, so that when the pulse is 120, the respiration instead of being twenty is about forty, and so forth. This is the more usual, and the more normal condition of the respiration. Respirations sometimes, on the other hand, are extremely few, sometimes only as many as ten in a minute.

Now, this variety of respiration is not, as you may readily suppose, connected with any disease of the respiratory organs; it almost always arises from disease of another kind, more particularly from disease of the nervous system, diminishing, somewhat, the sensibility of the relation, on which the motions of respiration depend. And these extremely rare states of respiration are found in disease of the brain, as in apoplexy. Very frequent breathings may take place without relation to the respiratory organs. Where the motions of breathing do not take place in regular succession—when one motion takes place after another, at a considerably longer period than usual, it does not necessarily indicate a derangement of the respiratory apparatus itself, but it rather depends upon some disorder of the nervous system. This irregularity of respiration takes place in great congestion of the lungs.

Besides the frequency of respiration we must notice its *extent*. Where the respiration is frequent, it is often very shallow, each movement of the respiratory machine being quite superficial or shallow, and the breath not deeply taken. Now, this may proceed from one or two causes, it may be from disease of the lung, the lung not being penetrable as in cases of *phthisis*, where the lungs are extremely diseased, and air cannot enter fully and deeply into the chest. This is one set of cases important to be observed in connexion with disease of the respiratory organs.

Another phase of diseased respiration may arise from debility, as in cases of fever, or other serious illness, when from great weakness patients have not the power to make an increased effort; what takes place then is a series of short breathings, as weak as they are frequent, owing to the want of perfection in the development of the motions. But the mode of distinguishing one from another is obvious. In the latter case, although the breathings are short, they are produced only by an effort. The patient can, by expanding his chest, take a deep inspiration, so that although the respirations may commonly rise to forty or fifty in a minute, yet if you desire the patient to take a long breath, it will be taken deeply and fully by a supplementary effort. This kind of disorder of inspiration is very common.

Frequency of breathing is generally met with in diseases of the respiratory organs themselves. I have seen it as much as sixty in a minute. But where there is this want of relation between the frequency of the breathing and respiration, and where a short and free breath can be taken on an effort, you may be quite sure of disease in the nervous system, and weakness of the organs, instead of disease in the respiratory organs themselves.

Respiration is sometimes prolonged to a peculiar degree. This may apply to either inspiration or expiration: sometimes both are prolonged. Where both are prolonged, it usually arises from some obstruction in the larger tubes of the bronchii, as in the case of croup or spasmodic affection of the tubes. Here the breathing is prolonged; inspiration is prolonged, often accompanied by a peculiar sound, and expiration also. You may trace this to its source in a great measure, by observing the condition of the inter-costal spaces; the respiratory apparatus acting with freedom, and there being no fault in the lung itself, if there is a fault in the tubes by which the air is supplied, when inspiration is applied with force and vigour, atmospherical pressure will act on the chest and inter-costal spaces, and cause them to be more depressed than usual. Sometimes the intercostal spaces swell by the effort of inspiration, owing to the difficulty of the passage of the air out of the proper tubes. The proportion between inspiration and expiration, is important to be observed in many particulars, it is very often affected by diseases in the lungs and the tubes. The details we shall consider under the head of particular diseases.

So much, then, for sight and touch, as means of investigating disease within the chest. They certainly do much to prepare for the more accurate and definite, but more difficult examination by the sense of hearing. Hearing may better serve to indicate the condition of the motions of the chest, and in consequence of this not being commonly applied for investigating disease generally, it has assumed the character of a separate science connected with the study of disease. *Auscultation*, as it is called, ought never to be separated from the study of pathology on the one hand, or the proper study of physical signs on the other. It is merely one mode of obtaining physical signs. There is this difference between the sense of hearing, and sight and touch, that in listening to the physical signs produced by disease, we can distinguish them when they are not obvious to sight and touch, though sight and touch are more commonly used. We are more familiar with the indications that take place in the case of hearing, in matters with which we are familiar, for instance, the sounds of language, or different voices in the streets, and the footsteps of persons approaching, and so forth, or we learn by experience to distinguish these different sounds; but we are not in the habit of practising our hearing to distinguish between the minute sounds, that take place in the changes of motions within the body; therefore it becomes a separate study; and, again, these signs are studied as signs and representations of the physical condition of the organs both in a state of rest, and in a state of motion.

Then, with regard to the mode of studying this phenomenon of sound, or *acoustic signs* as it is called, there are two modes which I shall not enter into particularly. One is by mere individual experience, the result of attention to the sounds, and observing what motions of matter produce those sounds, observing the consonance, accordingly, in matters of memory and observation. This is what the child does in practising its senses; it studies the thing until it becomes familiarized with it by observation. The other mode is by generalization of these observations, and the experience thus obtained; that is, by referring all these different phenomena to the general laws which regulate the production, transmission, reflection, and so forth, of sound.

Now then there are laws of sound as well as laws affecting matter and mind, laws which apply to the generality of cases, and therefore when you get hold of a law, and understand that law, you are master of the general facts which are the exemplifications of that law. And this mode of studying sound is so far useful that it gives us it were a handle to the phenomena and their development by observation; and after observation has made us acquainted with a great number of phenomena, by collecting them, they become intelligible signs of health or disease. We cannot study auscultation without a certain combination of them all; even those who reduce the study to the most empirical mode, by observing and recording what they observe, cannot get more than a generalization of the phenomena. Auscultation is useful to make us acquainted with the laws of sound, because it makes us more familiar with the changes of disease than we can be by observation. The proper way of empirically observing acoustic sounds would be independent of pathology. The student or medical man observes that in certain cases the chest sounds dull on percussion, and in these cases certain remedies are useful. He might go on in this way independently of any pathological knowledge to make auscultation useful to him, and no doubt it would be so in a certain sense. I understand that veterinary surgeons, even blacksmiths, without anything like a scientific knowledge of the heart, have been in the habit of making use of auscultation for many years past. This may be very useful now and then as a guide of the beating of the pulse without understanding the relations of the pulse; but this is a very reserved use of it, and it is in no way so useful as it becomes when the mode in which the signs are produced is understood. For a proper study, therefore, of the nature of the phenomena of sound in the chest, and a proper study of those general acoustic laws which regulate these different phenomena, you will do well to study some works on acoustics. Several elementary works may be necessary for this purpose. I have a little work on pathology and diseases of the chest, in which there are a few general remarks on this subject, with regard to sound, most applicable to the study of the sound of disease. You may enlarge on the subject. My reason for noticing it was the egregious errors into which both writers and teachers have fallen upon the subject of auscultation, errors not only with regard to experienced phenomena, but errors of anatomical fact. I could give a great variety of illustrations from various sources.

Now, the first mode of judging of the acoustic properties of bodies or forms that I shall mention, is by percussion. This is applicable to the chest and other organs in a state of rest. This mode of examination was first applied extensively by Ehrenberg, and it has been extended greatly by Laennec and others. Now, this may be illustrated by phenomena on the chest itself, or by any other way. When the chest is struck with a certain degree of

force, it gives a certain degree of hollow sound, which sound is very different from the sound given by striking the thigh. It is easy to distinguish between the two sounds. Now, I take the principle on which this depends as a guide to assist us to understand the phenomena, and to mark it altogether. This was formerly said to be produced by the hollowness of the chest. A person striking the chest and obtaining thereby a hollow sound, this was supposed to be an indication of a hollow; and some who attempted to apply acoustic laws to this, went on to explain that it was the revibration of hollow resonance produced by the interior of the chest on percussion. I believe few things more injurious in a practical art than erroneous interpretations, or improper applications of a science, and I conceive this attempt at explanation is not accurate, it is not consistent either with fact, as by examination, or the laws of sound as generally developed. As an example of this kind, an illustration given is to suppose the chest upon percussion gives a hollow sound in the same manner as a bottle gives a hollow sound in the interior. Now, we may bring this to an experimental test. If it depended upon the explanation given, it is very well known that, in conformity with the laws of acoustics, the hollow sound produced by striking a hollow body is in exact relation to the size of the interior, and to the freedom with which the interior communicates with the exterior, and that the sound would be greatly modified by closing the orifice. The sound becomes changed to quite a different character. Now, if the sound produced in the chest is of a similar kind, it ought to be modified by the freedom with which the air communicates from the exterior to the interior. When I strike my chest with my mouth open and speaking, having a free communication with the external air, the sound is precisely the same, as when I close my mouth and close the glottis, so that there is no communication at all. The sound is the same under both circumstances. Again, another mode by which this can be proved to be not the case, is that by varying the size of the cavity, the sound will be a different one: the internal resonance of the cavity will be deep toned in proportion to the size of the cavity, and by making the cavity smaller it can be easily proved. Now, we can alter the size of the cavity of the chest by expansion, yet the difference is scarcely apparent. I take a full breath, and breathe out, and the sound is still the same. It appears, therefore, clear, that whatever it depends upon, it does not rest on that general law by which hollow sound is produced. I take it, then, at once, that the cause is, that the sound which is thus produced —the sound on percussion,—depends on the vibration of the walls of the chest: it does not depend on the hollow within the chest, any further than that hollow enables the walls themselves to vibrate and give a sound, and these walls vibrating are the causes of the sound. These walls, then, constitute the body struck, and so vibrating cause the sound; but they derive a character, in their vibrations, from the body or bodies underneath them. If, for instance, these bodies are the lungs filled with air, then the sound will be clear, because the lungs filled with air do not interfere with the vibrations, therefore, the sound is prolonged; if, on the other hand, there is, in the place of air, [illegible] in the chest, an impediment exists to the rapidity of the vibrations, and a short and abrupt sound is produced. A solid body within the chest has a similar effect; that solid body coming in contact with the chest, interferes with the freedom of the vibrations, and the sound, instead of becoming prolonged and free, becomes short and dead. I generally illustrate this by the experiment of the hat, and I do not know whether we can get a better illustration of it. The sound or the vibrations of the hat will represent the mode in which the vibrations vibrate, not unlike the sound that some very good chests will produce. Suppose I introduce some spongy or porous matter into the hat, the vibrations will then be much shortened. If I introduce a handkerchief or anything of that kind into the interior of a bottle, it will deaden the sound, and a tubular sound will be produced; but not so in the hat. Take another illustration: suppose we introduce a solid body into contact with the walls, it will at once deaden the sound. This will illustrate the way in which the lungs become compressed, and then the sound becomes deadened. The lungs becoming consolidated by disease act in the same way. Suppose we pour some water in the hat, the sound becomes dead; remove it, and the sound is restored. By this very simple illustration, we have a very good proof that the walls themselves of a body constituted like a hat—the chest is in some degree like the crown of a hat—are sufficient to cause the sound independently of what is contained in the interior, but the interior being dense modifies the sound. The chest is constituted by an elastic frame of bone and cartilage, covered with membranous expansions and integuments, and so forth, thus constituting walls free to vibrate, and they receive the character of their vibrations from the organs which are underneath. Accordingly, when the lungs rise, the sound of the chest is clear, because the walls are free to move and to vibrate, the upper structure of the lung not interfering with the vibrations. On the other hand then, over the liver, which is a dense solid organ, the sound, instead of being so clear, is dead, compared with the sound produced in the chest. The sound that takes place over the region of the heart—particularly on full expansion which presses the heart in contact with the walls of the chest—is here modified, owing to the contact of the heart with the walls of the chest. So also with regard to bodies of a different density to those which lie next to them in their natural position. If at the upper part of the chest the lungs become consolidated by disease, the sound will be rendered deader, and the vibrations will take place with greater rapidity; and that taking place, the character of the vibrations will be raised. This is a law of acoustics, that sound varies according to the rapidity of the vibrations. If there are many vibrations the sound will be like a high note, if few the sound seems dead. Different circumstances will deaden the sound, and tend in some degree to raise the note. This is another important fact. In some cases it is difficult to say whether the sound is deadened in tone or not. We can distinguish whether it is different in tone: and though diseases do not tend to deaden the sound, they may raise the tone, by rendering the vibrations more rapid. Water in the cavity of the chest may deaden the sound more than the consolidation of the lung will do. This may be illustrated by the experiment of the hat. On the other hand, if any circumstances increase the aerial contents of the chest, and move or diminish the solid matter, the chest has a tendency to produce increased vibration; there is more resonance than usual. This arises in cases of *emphysema*, or dilated condition of the air cells, the lungs containing a greater quantity of air. In *flaccid emphysema* there is a diminution of proper consolidated matter in the chest, and here the sound on percussion is deeper than usual, and more resonant and longer. There is another example,—as when air is infused between the lungs and the walls of the chest, and this is called *pneumothorax*. Now, as you may be ready to suppose, this renders the vibration more easy, and when there is nothing but air, the vibration is still clearer, and there is an increased resonant sound.

As the walls give the sound, it is clear that they are the source of the sound, and it is necessary that they should be dense enough to be sonorous. If they are so flaccid as to be dull, you will get no sound out of them, nor can you get it out of a solid body by percussion of the external parts, as in some cases where it is illustrated by the walls being flaccid, or covered with fatty matter, or in others muffled with œdema. And in some parts of many chests a similar difficulty is met with: in the mammæ for instance, the breast and muscles in very muscular subjects, and those parts of the chest where there are deep layers of muscles, it is difficult to elicit the proper sound owing to the thickness of the walls.

Now, under these circumstances, what you want is something to supply the defects of the exterior, and this you have in the pleximeter invented by M. Piorry. He recommended percussion to be made on some solid body, rather than directly on the chest, in which case you can elicit sound from parts otherwise too flaccid to give a sound. The *pleximeter* is simply pressed on the parts from which the sound is desired to be obtained, and percussion is made by means of the tip of the finger. The chief objection to it is the clacking sound which is produced. There are other inventions made to counteract this clacking sound. There can be no doubt that through the medium of the pleximeter more delicate results are obtained than where percussion is applied immediately to the chest. Dr. Golding Bird invented a pleximeter, which consisted of a sort of hammer, and a plate to strike upon. With this you would go to the patient's chest, and with a large formidable hammer, enough to frighten some nervous patients out of their wits, who would fancy you were going to inflict some formidable operation upon them. The German physicians invented an application of this kind, and Dr. Bennet made some improvement upon it. When the thing was about I set my wits to work to try to find out something that would answer the purpose; and this is, a little bit of whalebone covered with velvet, and a little hammer. This little instrument is very portable, and with it you may perform percussion in all cases where it is very difficult to use the finger, and get the most delicate results that may be obtained by the more formidable instruments. I do not see that the apparatus is absolutely necessary, and a little practice will enable you to obtain immediate percussion by using the finger and the left hand, placing the hand on the part, and striking it with the finger of the right. You may thus obtain percussion over the whole surface, or you may place a finger on a particular part to practice percussion on that part. The best recommendation of the hand is that you are not likely to leave the apparatus behind you.

There are varied modes of percussion; sometimes it is short, sometimes gentle and flat, and sometimes it is fillipping, by which sound is developed with very little force.

Now, as to the test of the condition of the chest by percussion. You will remember that percussion is an indication of the density of the parts within the chest, and you must remember what those parts are—what is the natural position of the organs within the chest, in order to make the sounds on percussion available as signs of their condition. I have endeavoured to make this intelligible by representing the chest as a sort of transparency, so that you may see the apparatus within the walls. Now, then, with regard to the examples of sound. Just as the different organs lie in their natural conditions, the sounds on percussion can be modified by a combination of these organs. About the upper parts of the chest you will have a pure pulmonary sound. When you come to the contents of the abdomen, about the nipple, or between the fourth and fifth rib, you will have a more forcible sound on percussion, not quite so clear. The sound is clearer than when you get the mixed sound of the liver and the lungs together, which is, in fact, a mixed sound, the two bodies modifying the vibrations of the chest. The same thing is observed with regard to the region of the heart. In the upper region of the heart, or the left side, or the axilla, you have a clear pulmonary sound: and when you come to the third rib, close to the sternum, or between the fourth and fifth rib, nearer to the breast, the sound is more modified, more particularly by forcible percussion, which elicits the sound of the interior as well as the exterior. Coming over the region of the heart you have not so good a sound as you have higher up. And that will be modified still more by expiration, which increases the contact of the heart to the chest. About the region of the heart the sound becomes modified by the intestinal or stomachic organs. There is a bottle like sound, arising from the contents, and likewise from the walls of the stomach being free to vibrate. There is the tympanitic or drum like resonance; a mixed sound, which is obtained at the back part of the chest. In the chest, the sound is more purely pulmonary; the walls of the back are thicker, covered with a greater thickness of muscle, and by the scapula; and in short subjects, the sound is not so clear as in the lateral parts of the chest, but what you do get is pulmonary. The sound is opposed by the entire scapula, and sometimes by the long ridge of the scapula. Remember the structure of the lungs;

they do not slope out so much, they are not so lengthened anteriorly as they are posteriorly, consequently there is not the transmission of the liver sound behind as before. The same thing may be said with regard to the intestines opposite the hollow of the diaphragm, in the lower part of the back; here you get an intestinal sound, mixed up with a pulmonary sound.

This is the natural condition of the chest, and I have already adverted to some of the modes of developing sounds from the superficial and from the deep seated parts. The sounds from the superficial parts are to be gained by superficial percussion; by percussion by a stroke so gentle, that it shall not extend to the deeper parts, as when you strike an image, you hear nothing but the sound of the image. But suppose you strike harder, then you have not only the sound of the image, but a sound composed of that of the image, and the table on which it rests. This is a compound sound; the other is a superficial sound. The same thing applies to the walls of the chest when you strike them gently, you get a superficial sound, and accordingly if you want to know the condition of the lung which is lapping over the liver, and, independently of the sound of the liver, you use the gentle fillideing percussion; but if you wish to know the condition of the deeper seated parts, you use more forcible percussion. The same thing may be said with regard to the other parts, and may be rendered available in disease. Percussion is the test of the condition of the chest, not only when it is in a state of rest, but when the lungs are expanded, when the motion of respiration takes place. Also, with regard to the heart. The sound is considerably more dull on expiration than on inspiration; on the other hand, if there is adhesion to the pericardium or the chest, or a great enlargement of the heart, or the lung is diseased, and expiration does not take place, then you have a difference between full expiration and full inspiration which does not exist generally. On the other hand, if the lungs are permanently in a state of full inspiration, or in the case of emphysema, this will make no change in the sound on percussion, (whatever efforts are made to perform percussion on the chest,) nor a resonant sound over the region of the heart. But the great rule in the application of percussion is comparing the opposite sides. There is a correspondence between the sound given out by the opposite sides. Accordingly when we wish to know a healthy condition of sound, we judge not only whether the sound is clear or dull, but whether it is as clear as the corresponding point on the opposite side. In some cases the sound is dull and not equal upon comparison, but, in clear cases, you have to ascertain the depth of the motions. Sometimes disease affects one side, and not the other, or else it affects one more than the other, and hence comparison is the great test or means of indicating percussion.

LECTURES ON CHEMISTRY.

By JOHN SCOFFERN, M.D., Lecturer on Chemistry, at the Aldersgate School of Medicine.

The next element we have to speak of is chlorine, which, whether considered as a medical agent, or in relation to certain theoretical views, which are intimately associated with its history, we shall find to be an exceedingly interesting body. Chlorine was discovered by Scheele in 1774, who called it *dephlogisticated marine acid.* He prepared it by distilling muriatic or *marine* acid, with the black oxide of manganese, which latter was supposed to deprive the acid of an imaginary substance termed by him phlogiston. I have before now had occasion to remark that this term, phlogiston, was not very exactly defined or understood, even by those who were in the habit of using it most, being like the word *sympathy*, so much employed in medical practice, one without any definite meaning, but serving admirably the purpose of simplifying an explanation if not an idea. The word phlogiston may, however, in many cases be translated hydrogen, which, if done in the present instance, Scheele must be owned to have had a cleverer comprehension of the nature of chlorine than any subsequent chemist until the time of Davy. The French chemist, Lavoisier, and his colleagues, in their spirit of generalisation, laid it down as an axiom, that oxygen was the sole acidifying principle, therefore they maintained that the dephlogisticated marine acid of Scheele, or chlorine, must necessarily contain oxygen. This view was adopted until the year 1810, and when Davy first made known his doubts as to its correctness, he was regarded as a kind of scientific infidel. The French theory of the composition of chlorine, broached as it was at a period when the nomenclature of chemistry was undergoing a complete revolution, influenced, as may be well imagined, the visible structure of this science, to a very great extent, and as a consequence, the opinions and prejudices of men. Indeed, on casting our glances where we may over the wide field of chemistry, we cannot help being struck with the peculiarity of its nomenclature, as it regards the pertinacity with which chemists have insisted that oxygen must necessarily form part of every acid. This fallacy is too deeply mingled with the science and its nomenclature for any one to expect its complete removal. Chlorine does not possess any acid properties, although we find it to have been called dephlogisticated marine and oxy-muriatic acid. Davy, in 1810, proved that, according to the strictest logic of chemistry, chlorine must be regarded as a simple body, inasmuch as oxygen, far from being loosely combined with muriatic acid in its formation, as was imagined, could not be proved to exist in it at all. This view of the nature of chlorine is now universally received, and here its history terminates. Chlorine is found in both kingdoms of nature; although its properties are such that it would be fatal to both animal and vegetable life, if existing in an uncombined state. In the inorganised kingdom, it chiefly exists in combination with sodium, forming, in various parts of the world, rock salt, and also in the ocean. It is also found in combination with magnesium, calcium, lead, silver, and other metals. In combination with hydrogen, forming hydrochloric or muriatic acid, it escapes occasionally from the craters of volcanoes.

In the organised kingdom it is found in combination in both animals and vegetables. Sprengel affirms that maritime plants exhale this gas chiefly during the night. Hydrochloric acid is said to be a constituent of the gastric juice of animals, and chlorides, or combinations of chlorine with simple bodies, are found in many other animal secretions.

There are several ways of preparing chlorine, but only two of any practical importance.

1.—By heating hydrochloric acid with binoxide of manganese.

2.—By heating together a mixture of sulphuric acid, common salt, and binoxide of manganese.

In process 1st, two equivalents or 74 parts of hydrochloric acid, react on one equivalent or 44 parts of the binoxide, and yield one equivalent or 36 parts of chlorine, one equivalent or 9 parts of water, and one equivalent or 64 parts of protochloride of manganese. Symbolically, the decomposition is thus expressed—$Mn\ O^2$ and $2\ Cl.\ H$ give $Mn\ Cl$, Cl and $2\ HO$.

The second process, however, is cheapest, and most convenient; the theory is as follows:—Two equivalents or 80 parts of sulphuric acid, react on one equivalent or 44 parts of the binoxide, and on 60 parts or one equivalent of chloride of sodium, and yield one equivalent or 36 parts of chlorine, one equivalent or 76 parts of sulphate of the protoxide of manganese, and one equivalent or 72 parts of the sulphate of soda. In symbolical language, thus $Mn\ O^2$ and $Na\ Cl$ treated with $2\ S\ O^3$ produce $SO^3\ Na\ O + SO^3\ Mn\ O$ and Cl is evolved.

In practice, when following the last process, it is usual to mix three parts of dried common salt with one part of the binoxide of manganese, and to add to this, placed in a retort, so much of sulphuric acid diluted with an equal bulk of water, as may be sufficient for producing a thin paste. The heat of a spirit or oil-argand lamp, is amply sufficient for developing the gas, which may be collected over water in a common pneumatic trough, or by displacement. The first portions should be collected and thrown away as they are impure, but chlorine being an exceedingly irritating substance when breathed, it should never be allowed to escape within a building. Books recommend the collection of chlorine over *warm* water, because cold water absorbs it to a certain extent; however in practice, I invariably use the latter, thinking it better for many reasons. If warm water be used, the gas is made to expand, and if bottles be filled with it in this expanded state, and the stoppers inserted, the force of atmospheric pressure on them is such that they are frequently incapable of being withdrawn; moreover a warm water bath diffuses through the atmosphere a sufficient quantity of the gas to seriously interfere with breathing. On the other hand, by collecting chlorine over cold water, a portion of the gas is lost it is true, yet the absorption soon attains its maximum, and the vessels become speedily filled with the substance considerably diminished in volume by the agency of cold.

Chlorine when thus prepared is a greenish yellow substance, whence its name, of an exceedingly suffocating odour, very irritating to the air passages when inspired. The specific gravity of this gas is 2470. It does not burn, but supports the combustion of some bodies. The flame of a taper when immersed in a vessel containing this gas is not immediately extinguished, but burns for a second or two with a dull red light, giving off black carbonaceous fumes. Many bodies, however, take fire spontaneously when immersed in chlorine; of this powdered antimony, and phosphorus are examples. If a paper saturated with oil of turpentine be immersed in this gas, it immediately takes fire, and dense clouds of charcoal are deposited. This phenomenon is dependent on the great affinity which chlorine possesses for hydrogen. Oil of turpentine consists of carbon and hydrogen united together, of these chlorine abstracts the latter, and leaves the former in an isolated state. The affinity of chlorine for hydrogen is very great; when mixed, these gases gradually unite even at common temperatures, and suddenly with explosion, if set on fire by a taper or the electric spark. It is in consequence of this great affinity for hydrogen, that chlorine is enabled to decompose most organic substances.

Chlorine is occasionally employed in medical practice as a fumigating agent, disinfectant, and antiseptic. Also as an antidote in poisoning by hydrocyanic acid, sulphuretted hydrogen, and hydro-sulphate of ammonia, but in all these cases, chloride of lime is a far more agreeable agent. It has been employed moreover in certain pulmonary diseases, such as chronic bronchitis, with apparent benefit; nay, it has been even said to cure phthisis, but the assertion is not well supported. By far the most important uses of chlorine are to be sought for in the arts, where it is chiefly employed as a bleaching agent. The old plan of bleaching linen consisted in exposing it to the combined agency of light, air, and moisture, for a considerable period, when the oxygen, under these circumstances, united with the colouring matter, and formed colourless compounds. It had been remarked that the peroxide of hydrogen, a compound hereafter to be spoken of, was a very powerful bleaching agent, and moreover that dew water bleached more effectually than water from any other source; then it was forthwith imagined that such water contained peroxide of hydrogen, to which its bleaching properties were attributable. In short, the process of ordinary bleaching was said to depend upon the formation of colourless oxides of colouring matter. The bleaching properties of chlorine were referred to the same cause; it was said that this gas could not bleach except water were present, under which circumstances the latter becoming decomposed, its hydrogen uniting with the chlorine to form hydro-chloric acid, and its oxygen yet in a nascent state, allying itself to the colouring matter, and producing a colourless oxide. This theory is exceedingly simple, and seems no less plausible, but according to the experiments of Dr. Kane, it is not correct. This chemist says, that chlorine enters into the constitution of the new substance formed, sometimes replacing hydrogen, at other times simply combining with the colouring body, and in some, its reaction being so complex, that its immediate stages cannot be immediately traced

Chlorine, when brought into contact with water at a temperature of 32 deg. F. forms a crystalline compound, which is decomposed by a temperature of about 45 deg. If a quantity of these crystals be sealed up in a strong glass tube, and heat be applied to one end whilst the other is cooled, the chlorine during its liberation, exerts so much pressure on itself, that it becomes condensed into a fluid. 100 volumes of water at 60 deg. F. and 30 inches bar. absorb 200 volumes of chlorine, but it is necessary that the water should have been freed from all other gases by boiling, and that it should be agitated with the chlorine; otherwise the amount of absorption does not take place, and hence may chlorine be collected over cold water without any practical inconvenience. Water holding chlorine in solution, possesses the taste, odour, colour, and bleaching properties of the gas. The combination of these two, however, is not very stable, for when exposed to the light chloride of hydrogen, (hydrochloric acid) is formed, and oxygen gas eliminated. This change may be known to have occurred by the solution having lost its colour, and acquired the property of reddening litmus. The oxygen thus liberated during the formation of hydrochloric acid under the circumstances just mentioned, is in a condition particularly prone to unite with other bodies; and hence chlorine acquires the property of a very powerfully oxidising substance. In the greater number of instances, however, according to some philosophers, the oxidising influence of chlorine depends upon other causes. Thus it converts protoxide into peroxide of iron, by combining with one portion of the metal, and leaving all the oxygen to unite with the remainder, but I cannot help attributing the chief oxidising property of this body to its power of decomposing water, as just indicated.

Chlorine unites with oxygen in four proportions forming a very perfect series of compounds. Its affinities are very extensive indeed, being capable of uniting with nearly all the simple bodies, and forming compounds termed *chlorides* or *chlorurets*. With metals it yields compounds, analogous in many respects to the same bodies with oxygen; but with non-metallic simple bodies, the analogy is by no means so clear. For the most part, the compounds of chlorine with simple bodies are very soluble, in this respect differing widely from oxides; chloride of silver, and chloride of mercury, however, are well known exceptions. In some cases chlorine unites with metallic oxides, but the results of such combinations are not very stable. Sometimes it unites with protoxides without decomposition; at other times it displaces a portion of the oxygen of a peroxide, which becomes replaced by itself. Thus with lime it forms Ca O. Cl; with protoxide of lead, PbO. Cl; with Baryta, Ba O. Cl which probably correspond to Pb O_2 and Ba O_2. In addition to the properties of chlorine, which I have mentioned casually, the following must be impressed upon your memories.

100 cubic inches weigh nearly 77 grains. Its specific gravity is 2.5 nearly. Its equivalent weight is 36, omitting fractions, and its equivalent size is equal to that of hydrogen. By a pressure of 4 atmospheres, i.e. 60 lbs. on the square inch, at a temperature of 60 deg. F. it is condensed into a yellow liquid, having a sp. gr. of 1.33. The colour, odour, and bleaching qualities of chlorine are distinctive characteristics of the gas, when uncombined or merely united with water. Moreover, either in these or any other conditions, so long as it does not form part of an insoluble compound, it yields with nitrate of silver a white curdy insoluble chloride of the metal, which blackens on exposure to the solar rays, or even diffused daylight, which is totally insoluble in boiling nitric acid, and soluble in liquor ammoniæ. These characteristics are peculiar to chlorine alone, and hence are the distinctive tests for that substance.

FOREIGN PHYSICIANS IN PARIS.—The number of foreign physicians now authorised to practice in Paris amounts to thirty-one. Within the last ten years only two or three permissions have been granted, in spite of the numerous demands addressed to the Minister of Public Instruction.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c. &c.

LECTURE V., Delivered December 12, 1842.

(Concluded from p. 276.)

I have not purposed to read anything in these lectures, but there is an essay by Sir Henry Halford, which gives an interesting description of a case that relates to the present subject, and you must allow me to read half a page. It is what I have observed repeatedly myself. This patient had all the symptoms previously mentioned, and I must remark that this was the case of the late Dr. Warren. Sir Henry Halford says, "A young gentleman of family, about 25 years ago, took cold whilst under the influence of mercury; the fever increased daily, until it was accompanied at last by so much fever and delirium, as made it necessary to use not only the most powerful remedies, but also personal restraint. At length, after three days of incessant exertion, during which he never slept for an instant, he ceased to rave, and was calm and collected. His perception of external objects was correct, and they no longer distressed him, and he asked pressingly if it were possible that he could live?

On being answered tenderly, but not in a way calculated to deceive, that it was probable he might not, he dictated most affectionate communications to his friend abroad, recollected some claims upon his purse; 'set his house in order,' and died the following night." I should not have quoted this case had I not seen similar cases, and in fact many cases are calculated to deceive, whereas the fact is that the patient, instead of being better, is worse. He goes on to say, "The reason why so unfavourable an opinion was entertained of his state was, that the apparent amendment was not preceded by sleep, and was not accompanied by a slower pulse." Now the fact of a patient in this state being worse is an important thing; for, when a patient seems better and is no better, you must come to the conclusion that the state of things, called the sinking state, what John Hunter called a state of "dissolution," is not a state of amendment.

Before I conclude the subject of the symptoms, I want to detail to you an interesting fact, which I believe to be a new one, corroborated by an interesting case lately published by a gentleman whom I have the pleasure and honour of knowing, namely the convulsions that arise from inflammation of the membranes of the brain. My friend, Mr. Henry Smith, performed this experiment a short time ago; he took a dog and removed the upper part of the cranium, and lacerated the brain in every direction. There was no convulsive affection. At length he removed the entire substance of the brain, leaving nothing visible but the upper part of the medulla oblongata, and the membranes at the bottom of the brain. Now this is the important fact—he pinched the different membranes at the base of the brain, and to my astonishment there was every system of spasmodic action in the face, the neck, and the upper parts of the animal. The fact is that lesion of the membranes at the base of the brain produces spasmodic action. In fact, by inflammation of the arachnoid membrane you may have spasmodic action, and any lesion of the dura mater, like this membrane, will produce spasmodic action, and in this manner you account for those spasmodic affections not previously accounted for until this was known. This fact is important in a physiological point of view.

A near relative of mine had a favourite horse; he was fond of riding. On opening a gate, and leaning forward to do so, the animal did what many horses are apt to do; it tossed up its head violently, and this action gave my friend a blow upon the anterior part of the skull. He was never free from head-ache from that hour. He became affected with delusive ideas; he was frequently buying every plot of ground that he saw, and at length he became incapable of taking care of his own concerns, and died in a lunatic asylum. That case is one of atrophy. Atrophy of the brain is the result of disease. There is a depression upon the brain. The *modus operandi* of this is unlike inflammation. It is produced by effusion into the membranes; this effusion, where there was before a cavity, produces a depression upon the brain, which is indicated by the symptoms I have before detailed to you, in noticing the case of atrophy. The symptoms are pain and delusive ideas, and it becomes of the utmost importance to be aware of these. There was paralysis of speech, the patient lost the power of articulation. He lost the mobile power of the opposite side of the body, so that when he walked, he used one arm and one leg before the other. Now, emphatically, I say, the point which it is important to bring before your attention in regard to such cases is this, to distinguish between insanity and diseases of the brain producing delusive ideas. I need not tell you that this case was not a case of insanity, but was a case of partial arachnitis, an injury of the membranes of the brain. It was a disease of the brain producing delusive ideas. It is very important to distinguish between these cases, for in this case, however it might bear the appearance of insanity, it was but a disease of the substance of the brain, producing incoherent or delusive ideas. Another very important thing is, that you have in many persons delusions which are similar, and in one you may have a slight degree of inarticulateness in the speech, and a slight degree of paralysis. That is the case I have alluded to—the patient was not insane; there was disease of the brain producing insane ideas but not insanity. The prognosis in these cases is most important from the reasons I have mentioned to you. I have a case under my care just now of a very interesting character. The gentleman I am alluding to I have attended for three years. He is affected with paraplegia. The paraplegia has been very much removed, and he recovered from it sooner than is usual in such cases. From losses which he sustained he was violently affected in his mind, and became deranged; I must call it insanity. He was taken to an asylum; I was called in to that asylum, and I gave it as my opinion that that patient had paralysis with his insanity, and could never recover. He is now capable of conducting his own affairs. That very patient dined with me the other day. I had invited him with a friend of mine in order to see whether there was any malady remaining, but his conversation was as intelligent and as full of information as that of any person at the table. Was it deception? The deception was as to there being real insanity with the paraplegia, and that kind of paralysis that comes on is not a case of insanity. The prognosis here is invariably fatal as to the recovery of the disease and to the duration of life.

I cannot conclude this lecture without saying a few words more about arachnitis. I am not going over again what I said about the importance of blood-letting as a diagnostic, as I suppose the subject is sufficiently impressed upon your minds. Now with regard to the second stage of the disease. I must revert in the first place to what I said before—place the patient upright in the first place, so as to enable you to judge of the nature of the disease, and the strength of the patient. The next thing to be done as soon as possible is to put the patient under the influence of mercury, because this will probably have a tendency to the subjugation of the disease. Now I have only one statement to make in order to guide you. If the symptoms do not subside, you must repeat blood-letting. If the quantity taken is very slight, repeat the dose, but then it must be very small, for you may depend on it the case will not bear a repetition of the blood-letting. If the symptoms are not entirely removed, you may hope day after day to see a mitigation of them, but if the symptoms continue, and you have taken as much blood from the arm as you can, cupping may be adopted as being more valuable than leeches, and this may be applied daily, and you may watch its effect, and as soon as possible put the patient under the influence of mercury, the sooner you do so the better. Dr. Abernethy recommends in cases of this kind, croton oil as the best purgative. These,

then, are the remedies. Then there are some other points. In the first instance place the patient with his head and shoulders raised. The best mode is to place an inclined plane under the bed or mattrass, so as to raise the whole of the body. In such cases there is a little disposition to the patient slipping off the bed, and this is obviated by raising the pillow. The next important thing is very cold applications to the head. Another important thing is to keep the feet exceedingly warm, reversing the order of things, keeping the head as cool as possible, and the feet as warmas possible.

PRACTICAL OBSERVATIONS ON THE NATURE, PECULIARITIES, AND TREATMENT, OF SOME OF THE MOST PREVALENT DISEASES, &c. CONNECTED WITH THE POPULATION OF NORTH CHESHIRE, AND SOUTH LANCASHIRE, EMPLOYED IN COTTON FACTORIES.

By Charles Clay, Member of the Royal College of Physicians, London, College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence and Medical Police, Manchester.

(Concluded from page 261.)

It is impossible to view the adult operatives of factory districts, without being convinced of the fact of constitutional depreciation. Those who escape the fatality of the many diseases to which they are exposed in early life, live onward, only to prove more decidedly the inroad made into their constitutions; when, if differently employed, they might have been of the most healthy character. Many years ago, some of the best recruits in the service, were raised in Lancashire, and Cheshire; but now, a young man brought up in a factory, passing a physical examination as a recruit, is very rare indeed. It has been said, "they have too much good sense to enlist;" but the truth is, it is useless to enlist, and be rejected. I have myself rejected many, and in fact, I seldom saw a good recruit come out of the factories; miners on the contrary, and some other classes of workmen were stout athletic young men, who could bear fatigue, and were well calculated for the service. No one would wonder at this difference, when he examines the physical developments of the different artisans.—One, who has passed nearly all his time in a factory, looks at least ten years older than he is; and it is difficult to find one who may be said to enjoy robust health.—Much depends on the departments in which individuals are employed, for the development of various forms of disease.—For instance, asthma, in various forms, and obstinate constipation attack those employed in the card-room, the consequence of breathing an atmosphere constantly loaded with fine particles of the cotton dust, &c.; whilst spinners, from their extraordinary muscular exertions, are subject to hæmatemesis, hæmoptysis, phthisis, &c., as well as the more active inflammatory diseases,—pneumonia, peripneumonia, hepatitis, and enteritis. Their long continued standing position brings on varicose venous affections of the legs; ulcers of a very obstinate character, and hæmorrhoids; inguinal and scrotal hernias are also very common. From violent exertions long continued, excessive perspiration is exuded, which, if carried too far ends in debility, constipation, anorexia, atrophy, and phthisis. Sometimes, the perspiration is suddenly checked by frequent exposure to atmospheric changes, (very different to the high temperature in which they generally work); hence arise frequent attacks of fever, often degenerating into typhus, almost certain to become typhoid if bled, and very often fatal if depletion is resorted to. Where they escape attacks of general fever, rheumatism, acute and chronic, tic doloureux, and obstinate diarrhœas are very common, and constipation equally so, which is greatly increased by the daily use of inferior cheese, which adds no little to the list of dyspeptic patients, which is certainly very numerous. The operatives, generally speaking, are not cleanly, and their coarse inferior diet is made much worse, by bad management on the one hand, and improvidence on the other, which will in some manner account for the prevalence of eruptive diseases, chiefly the itch, and scorbutic affections. One seldom sees gout, apoplexy or insanity in this class.

Chapter VI.

The Declining Period of Life in Both Sexes.

If we pursue this subject to the declining period of life in both sexes, we shall only be the more confirmed in our views already stated. In females, the period of menstrual cessation is an extremely critical one, and not unfrequently accompanied with fatal results, and very many are rendered truly miserable by prolapsus uteri, ani, &c. I am not aware that cessation of menstruation occurs at an earlier period than ordinary amongst this class, but it is common for the females to marry very young, and they generally have children quickly, so that at forty or fifty they appear old women. When individuals are past their prime, and incapable of a certain amount of work, they seldom get employed; indeed, it is rare to see a person at fifty employed in a mill at all.

What must be considered the declining period of life in this class is little more than the prime of an agriculturist's life, the men appear bowed down with age, when not old, and their physical faculties almost annihilated, real old age is seldom attained; and should it be, it is attended with so many diseases, that life must be a burden to the individuals, if not to those on whom they depend for their scanty comforts—few have the courage and industry to save a little money in their youth, to enable them to purchase necessaries for the decline of life. This sad catalogue of miseries is not overrated. The whole lists of maladies are an every day occurrence in those districts, and convince a reflective and observing person, that *this is* the locality "where wealth accumulates, and men decay."

CURABILITY OF CONSUMPTION.

(Continued from page 281.)

(To the Editor of the 'Medical Times.')

Sir,—Before commencing the superstructure of treatment, permit me to remove a little more of the rubbish that lies in my way, in the shape of misconceptions or misrepresentations on certain leading points of this question, which have gained currency among many members of the profession, who are either too busy or too negligent to do more than give it a mere cursory attention. Having met with some of these errors, in an article lately manufactured in the intellectual laboratory of Sir George Lefevre, I shall notice, *in transitu*, a few of the remarks made by that physician, who has so long been a sojourner in a foreign land.

He states, *inter alia*, "The public have of late acquired some new and very consolatory ideas as to the nature of consumption. When attacked by the disease they no longer despair as formerly; they have hopes of permanent cure. If this fail they know that their lives may be prolonged to an indefinite period, for they are now aware that the flame may be kept alive by half a lung, or two lobes out of three, or three out of five, and then they may catch a severe cold which will cure them radically. (See Dr. Ramadge on consumption.") I confess my surprize that this gentleman should have so far mistaken Dr. Ramadge's statements as to misrepresent them in this egregious manner. He no where asserts that the vital flame may be supported by half a lung, &c., nor that after the almost entire loss of the lungs, from obliteration of the air-cells or otherwise, a severe cold will cure the patient radically. This loose, vague, and erroneous mode of commenting on the statements of an author, is, to say the least of it, unfavourable to the interests of science. Further on it is observed in the same paper, that "an inflammation supervening in the form of catarrh may, by its adhesive processes, form a barrier between the sound and the diseased parts of the lungs, preventing thus the contamination of the former, and we have to thank Laennec for the discovery." I shall feel obliged if he will indicate in what part of Laennec's work the doctrine is inculcated that catarrh is either partially or perfectly capable of arresting the progress of consumption, which I suspect is the intended meaning of the above obscure and unpathological sentence. On the contrary he carefully avoids enunciating so bold a theory, and distinctly deprecates in his chapter on catarrh the inference that he supposes it a preservative against tuberculous development. The discovery is due to Dr. Ramadge, and if there be any merit in it—

Palmam qui meruit, ferat.

However, whether it proceeds from Laennec or any other, is to him a matter of profound indifference. He regards with shrewd suspicion all attempts at cure when the disease is established, and would attract notice more exclusively to the preventive part of the treatment.

When the town was besieged, the sapient currier declared that his fellow-townsmen might do as they pleased, but in his opinion there was nothing like leather. This physician does not venture to dispute either Laennec's or Dr. Ramadge's theory. They may be right or wrong, but in his opinion there is nothing like *thermal comfort* as they enjoy it in Russia. His glowing description of the arrangements made in that frigid climate for the production of this most desirable effect will, I sincerely hope, have the good effect of melting down the objections many consumptive patients entertain against cold climates. Were they hybernated in Russia, if I might so speak, all the year round, instead of migrating to warm climates, the chances of recovery would be multiplied: not by the elevated temperature of the Russian apartments, but by the catarrh which either in a mild, dry, and latent, or in a manifest form, could scarcely fail to supervene on the daily transition from this warm atmosphere to that out of doors, and it is to the frequency of this catarrhal state I should, in a great measure, be inclined to refer the comparative infrequency of consumption in Russia and other countries in the far north. The history of his own health, given by this writer, renders the supposition highly probable that anteriorly to the catarrhal affection under which he has laboured for so many years, tuberculous deposit had taken place in his lungs, and phthisical symptoms more or less manifested themselves. It is also not unlikely that his bronchial disorder first attacked him in the winter season, and that but for this coincidence the Russian embassy would have never had the benefit of his services, nor the public his advice to imitate the Russians in their thermal defence against hyperborean blasts. He concludes by confessing that there are a few drawbacks on the advantages of heated apartments, such as languor, lassitude, uneasy sensations of the head, impaired appetite, and other disagreeables, all which are in his estimation merely secondary, and, with a *naiveté* for which I was quite unprepared in a courtier, candidly acknowledges that he has a great deal of prejudice to encounter in propagating his views among the English, who are "a cleanly people," pertinaciously adherent to the old-fashioned practice of admitting fresh air into their rooms, and so sensitive in their olfactory organs as to abhor the effluvia of rancid bear's grease, and all other offensive, sickly, musty, varieties of atmospheric contact.

Jeffrey's respirator, and similar contrivances or expedients, should not be resorted to by consumptive persons. The infirmary for diseases of the lungs was originally instituted chiefly for the purpose of providing wards artificially heated for phthisical patients. Dr. Ramadge informed me that he has never found them of any utility in such cases, but often the contrary. The excitement in the first instance may give a fillip to the constitution and lead to some indications of amendment, but these are always fugacious, and the symptoms soon resume the previous or a worse character. When he admits such patients, which is very rarely, the object is either unconnected with the temperature of the wards, or to prove to some of the medical gentlemen attending the infirmary that his views on this point are borne out by facts. If this be true, what shall we say of nascent institutions putting forth prospectuses, and collecting large subscriptions for extending similar accommodation to patients at their own homes, or in apartments hired for the purpose at different parts of the metropolis. The intention is benevolent, but the money so expended will defeat its own object. The ignorance of the profession, and not that of

the public, is to be charged with the misappropriation of these funds.

Another instance of the loose unsatisfactory way in which the views of Dr. Ramadge have been handled, is furnished by a foreign physician, Dr. Ulric Palmedo, of Berlin, in his treatise on the cure of consumption. He seems, however, to have read and considered those views more carefully than the first-named physician. His words are, "The examinations and observations of cases of cures in this terrible disease, which an English author, (Dr. Ramadge,) had related as having fallen under his inspection, in living persons as well as in bodies after death, were striking, and his explanation of the process resorted to by nature to heal pulmonary tubercles, was so evidently in harmony with her laws, that it left a powerful impression on my mind." He then proceeds to state, that he had made trial of the mode of cure recommended by Dr. Ramadge, which he says failed in his hands; at the same time candidly expressing his fears that the cases may have been of such a nature that either the disease had already caused too powerful a destruction of the lungs, or from some other reasons they were improper for the treatment, or the method recommended had not been applied and followed up with the necessary perseverance and punctuality. I shall take an opportunity of referring to these remarks in a future number, and explaining the causes of Dr. Palmedo's want of success.

To remove every erroneous impression as to my views on catarrhal antagonism, I beg to repeat that when very severe, catarrh hastens the maturation and liquefaction of tubercles previously formed, and sometimes when these are numerous and the softenings simultaneous, the fatal *denouement* is precipitated. It is not recommended that patients should expose themselves to currents of air, or sleep in damp rooms, or beds, &c. I would protect them against bronchial affections with all due care, but at the same time avail myself of their presence when moderate, and give them credit for what good they really do effect. But I would say both of this and the other morbid agencies employed by nature,

> "*Non tali auxilio, nec defensoribus istis,*
> *Tempus eget.*"

We have other means at command, more simple, safe, and efficacious. I shall discuss the TREATMENT under two heads:—

1st.—The Mechanical or Surgical and Primary.

2nd.—The Medicinal or Constitutional and Subsidiary.

One great and leading fact obtruded on our attention by the symptomatology and pathology of phthisis is, that nature very frequently attempts and succeeds in effecting a partial and temporary, or perfect and permanent cure by *some* means. The analysis given in the former articles brings us to the discovery of the agencies employed, and a little further consideration conducts us inevitably to the conclusion, that they all act in one way, viz., *by expansion of the lungs.* But we find that in producing this, nature sometimes oversteps the boundaries of prudence, and that she does evil in her efforts at doing good. She frequently makes the expirations too prolonged; fails in restoring the nice natural balance between inspiration and expiration. The evil is either equivalent to the good done, or it is less; greater it would be hard to suppose. The business of art, therefore, is to diminish or prevent the evil effects of her operations by judicious control or assistance, and, if possible, accomplish her aims by an agency similar to her own, and not liable to its objections.

The expansion of the lungs may be effected to a certain extent by exercise, and there are certain species of exercise which expand them more than others. This prophylactic operates both generally and locally; it invigorates the body and mind, thus obviating debility, which is the great cause of tuberculous deposition, and by stimulating the lungs to deeper and more frequent inspirations, increases their volume and gives enlargement to the chest.

Sea-voyages, land journeys, riding, running, swinging, &c., and whatever sports or employments exercise the pulmonary tissue prove beneficial. In trotting, which is the best species of horse exercise, the ascent and descent of the trunk on the saddle is followed by a greater diaphragmatic descent, which gives the lungs more space for expansion, particularly the lower lobes, on whose integrity so much depends.

The increased exercise of the lungs themselves is advantageous on the same principle as in other tissues. The muscles of voluntary motion from their frequent action are very rarely indeed the seats of tubercles. The lungs, as by a general rule, may be stated to be first affected in the parts where least motion is allowed, viz., the upper lobes. The lower, from their proximity to the yielding and descending diaphragm, and the greater arches of the ribs, are less interfered with in their motions, and therefore the less liable to become diseased, unless where there exists some adhesion to restrict their expansibility. In sea voyages or new localities, the action of the lungs is deeper and fuller from the stimulus of the unaccustomed atmosphere. The increased pulmonary action, and consequent improved sanguification, may be regarded as the causes of the amelioration we observe effected by changes of locality in convalescence. The consideration however of this by no means unimportant section of the subject, belongs more properly to the second head of treatment—the subsidiary. As the employment of general exercise is sometimes forbidden by circumstances, or is not practicable to any great extent, nor are its effects sufficiently constant or dynamic when the disease has declared itself; we must then come to more decided and certain measures. We must be provided with the means of exercising the pulmonary tissue, and expanding the air-cells surely, steadily, and directly. Now in order to accomplish this, let us endeavour, after the manner of nature, *to prolong the expiration.* This can be done by a very simple contrivance. Let a tube be constructed, so that when breathed through, backwards and forwards, the air will be inspired more easily than it can be expired. The impediment offered to the expiration need not be considerable, and can be graduated. A common quill, larger at one end than the other, will answer the purpose tolerably well. But it is better to employ a tube, nicely constructed on the principle laid down. For a particular description of the different sorts of tubes now or hitherto used for this purpose, I must refer to a subsequent article, to which I shall add an engraving descriptive of each, and directions for use.

The effects of prolonged expiration are the same, whether produced by natural or mechanical impediments. I shall briefly recapitulate them, viz., imprisonment of the air in the lungs; distension of all the permeable air-cells; increase of the pulmonary volume; enlargement of the cavity of the thorax, from the pushing out of its walls in every direction by the expanded lungs; approximation of the surfaces of cavities, from pressure on all sides by the pulmonary tissue external to them; union of these surfaces, if early, by a soft membrane, if late by a semi-cartilaginous intervention, &c.; arrest of the tendency to fresh tuberculous deposition from exercise and full expansion of the pulmonary tissue, and a state of dormancy or quiescence more or less complete of the tubercles already formed and uneliminated, they being surrounded by black secretion, isolating and often rendering them innocuous. Such are the effects of prolonged expiration in favourable cases. The great comparative advantage of the tube over nature lies in the following circumstances. It is capable of being so made that we have neither more nor less prolongation of expiration than is exactly necessary; it can be taken up and laid aside at pleasure, so that the lungs when fatigued with this abnormal exercise may have repose; it can be persevered in for any desired length of time, and abandoned when no longer necessary; or, when contra-indicated by the supervention of some accidental malady or symptoms; and finally, from its proper use no evil consequences will be found to result. It is in short, an instrument completely at our command, simple in its mode of operation, certain and safe in its effects. It may be properly called a surgical or mechanical means of treating phthisis. No medicated vapours are required. The simple atmospheric air is the great medicinal agency, and elasticity its essential ingredient. We have no occasion for the fumes of tar or iodine, of chlorine, hemlock, or turpentine. With the value of these medicated vapours I have nothing to do. The principle of the treatment I advocate is essentially different, as has already been seen.

Simple as this instrument is, its power is greater than can be appreciated by those who have not used it. Let it not be despised on account of its apparent simplicity being so incommensurate with its pretensions.

When Naaman, the favourite minister of the Syrian monarch, applied to the wonder-working prophet of Israel for the cure of his leprosy, he was ordered to bathe in the waters of Jordan, but indignantly exclaimed, "Are not Abana and Pharpar, rivers of Damascus, better than Jordan's contemptible stream?" His servants judiciously reminded him that it was but a little thing the prophet had commanded. He bathed in the prescribed waters, and his leprosy was removed.

Thus would I counsel those who at first may treat this simple instrumentality with the haughty disdain that sits so lordly on the brow of more complicated science, and imposing agencies. Is it not a little thing? The difficulty in making the experiment is little; try it, and though I have no pretensions to the gift of prophecy, or the working of miracles, I promise you success, exceeding, if such may be, the sanguine expectations I have endeavoured to create.

There are, however, certain rules which should regulate its use, and stages, symptoms and complications of consumption in which it is either inefficient, inadmissible, or for intervals longer or shorter to be suspended. These are essentially necessary to be well understood, and shall be explained in a future communication.

DISCIPULUS.

(To be Continued.)

HOMŒOPATHY.

THIS elaborately learned species of empiricism has been recently much the subject of general attention, in consequence of the death of the Countess of Denbigh shortly after her confinement, and while under the attendance of a homœopathic physician. From a correspondent (M.D.) who does not give his name, a contemporary furnishes the following statement of circumstances :—

"Though in her confinement, eighteen months ago, she nearly lost her life by homœopathic treatment, her belief in it, strange to say, continued unshaken ; and on again becoming pregnant, recourse was had, as before, to the disciples of the infinitesimal system. This lady was of a very plethoric habit, and, according to the accepted practice in similar cases, should have been carefully watched by her medical attendant during the whole period of gestation, and such means adopted as were likely to prevent any undue determination to the head during or preceding labour. Thus might have been prevented the probability of apoplexy or convulsions. But such treatment is against the principles of Hahnemann and his disciples; and therefore could not have been followed by the homœopathic attendants of this unhappy lady. As the period of her expected confinement drew near, she was seized with convulsions ; and, as a matter of course, their fractional grains and their globules had no sort of power to check them. Some time was lost in these fruitless attempts—and we all know the great value of even an hour in such cases. By accident, a medical man of some eminence was in the house, and was requested to see the case ; he pronounced the lady to be suffering under puerperal convulsions, requiring from those in attendance the most active and energetic measures, and the assistance also of a skilful accoucheur, to forward the delivery of the patient,

which seemed to him urgent and necessary. No, the homœopathic doctors spoke confidently, and the poor husband was not shaken in his faith of their skill and power. The infinitesimal remedies were alone used: the convulsions, as a matter of certainty, ran their course unchecked; and apoplectic coma followed!"

The correspondent proceeds to say, that in this state of unconsciousness the patient gave birth to a child and sank; and, he adds:—

"I am sure you will say, with me, that any tyro, who had attended one course only of midwifery lectures, would have known every symptom in this case, and been able to determine on the necessary, and (in all probability) successful treatment. A story was circulated immediately after the event, that a fright occasioned the convulsions: this caused a fear of the coroner. The rumour was then changed, and a post-mortem examination was made. *Report*—Softening of the brain; a large tumour; and more water than usual in the ventricles.

"Your readers may wish to know who examined the head? Dr. Hahnemann's disciples!"

A reply has been sent to the above statement by one who similarly conceals his name, and who declares the account to be a mere fabrication. Mr. Barnes, the accoucheur, and Mr. Fincham are named as attending the autopsy, neither of whom, it is affirmed, is an homœopathist (tant mieux pour eux). The first attended the whole accouchement. It is then bluntly denied, that at her former confinement her ladyship was attended by an homœopathist—that she was "of a plethoric habit"—that watching a plethoric habit during gestation is against the principle of Hahnemann—that the medicines did not check the convulsions—that the homœopathists spoke at all confidently of recovery—and that any coma at all supervened. It is, moreover, asserted, that "the medical man of some eminence" by chance present, was Mr. Barnes. The cause of death is stated to be beyond art; and the following are given as the appearances observed on the post-mortem examination:—

"Very little blood in the head. Dura mater rather congested, but without inflammation, and more adherent to the bone than usual. Great thickness and opacity at the back part of the longitudinal sinus, at its junction with the lateral sinuses. A small tumour, half an inch in diameter, and about a quarter of an inch thick.

"Base of the brain congested, particularly about the medulla oblongata, with a small quantity of fluid; the whole of the cerebellum softer than natural, with here and there a portion soft like paste. This state of the brain was the result of disease of considerable standing, and could not be remedied by any particular treatment.

"(Signed) G. Fincham.
Harris Dunsford, M.D.
A. B. Barnes.

"December 16, 1842."

Now, the conclusion we draw from these premises are—first, that "the medical man of some eminence," Mr Barnes, has been in very bad company, and should explain to his brethren on what principles he acted in forming so suspicious an association; and secondly, that M. D. has disgraced his cloth by an accusation against empirics, made in utter ignorance of the circumstances, and which, by its falsehood, throws discredit on his brethren; or else, that the homœopathic physician replying to him, is a pretty bold specimen of the class of liars. If better data be furnished us for less *conditional* conclusions, our readers shall have the benefit of them.

TREATMENT OF SPRAINS BY STARCHED BANDAGES.

(From a Correspondent.)

Sprains, as is well known, are generally produced by great force applied to a joint, or by a smaller degree of force awkwardly applied when the muscles of the limb are unprepared for it; the result of which is, that the ligaments, tendons, and their sheaths, which surround the joint, are violently stretched, and in some cases torn. After a short time, sometimes almost immediately, great tumefaction and stiffness of the affected joint takes place, from effusion of blood and serous fluid. Such cases are of very common occurrence, and are familiar to every practitioner. They are universally classed among the most tedious and troublesome cases which fall under the care of the surgeon. The treatment adopted by different practitioners is extremely various; some apply leeches, others cold evaporating lotions, others warm fomentations, whilst some trust to stimulating frictions: and, perhaps, it is a general fault among medical men to resort too much to *one* method of cure, to the exclusion of other means. The treatment of such cases, which we have been in the habit of following for some time past, has certainly been attended with more decided success than any one which had formerly come under our notice. Not only is the patient saved much suffering, but is enabled sooner to attend to his duties, and to take that exercise in the open air, which is so congenial to health and convalescence. By means of the following treatment, our patients may (even after having suffered a very severe sprain) be enabled to go about their usual avocations in six or eight days. Upon being called to a case where a sprain has occurred, the extremity must be elevated and kept at rest. Cold evaporating lotions, or warm fomentations, are to be applied according as the one or the other is more agreeable to the patient's feelings, and also according as we see the case immediately after the injury, or some time after its occurrence; in the latter case, warm fomentations are always most beneficial, and most relished by the patient. It may be necessary, also, to use local blood-letting, when symptoms of inflammatory action make their appearance: this, however, we believe, will seldom if ever be required, if the accident is seen at an early period. After the swelling around the joint and in the course of the tendons has nearly subsided, under the use of such, or similar applications, the starched bandages, first recommended by M. Larrey, and afterwards by Dr. Lentin, of Brussels, in fractures of the extremities, are to be applied. In the employment of these bandages, it is of the greatest consequence not to apply them so long as the limb continues very painful or much swollen; at the same time, it does not do to wait until the pain has altogether subsided, or the swelling entirely fallen, for this is seldom accomplished until a considerable time has elapsed, and until a bandage is applied. In applying the bandage, we always follow the plan of Dr. Lentin, of Brussels. Two or three pieces of broad stout cloth, well covered with starch, are to be folded and applied on each side of the limb, across the affected joint. One or two rollers, also well starched, are then applied over these, not very tight, but still of sufficient tightness to give gentle compression to the whole of that portion of the limb. These dry readily in twenty-four or thirty-six hours, on exposure to the air. It has been recommended to facilitate the drying of the starch, by passing a heated smoothing-iron over the bandages, but we have found that this has a tendency to render the limb more painful, and to increase the inflammatory action of the parts. The size and length of the bandages are always to be proportioned to the joint over which they are applied. Sprains most commonly occur in the wrist and ankle-joints, and then it is advisable to use bandages which will reach respectively from the middle of the fore-arm to the palm of the hand, and from the middle of the leg to the digito-tarsal articulation. The advantages resulting from this plan of treatment are obvious; it exerts a comfortable and most beneficial degree of pressure upon the injured parts, while the moisture of the starched bandages acts as a temporary fomentation, and when dry, the stiffness which they acquire, and the continued and regular pressure which they exert upon every point to which they are applied, completely prevent every kind of motion of the injured joint, even although the patient may be using the rest of his body very actively. It may be well to mention, however, that it is sometimes necessary to apply a couple of strong pasteboard splints on each side of the injured joint until the bandages dry. Out of 100 patients lately treated on this principle, 92 got well in six days—at least, when we say well, we should have said able to go about without any assistance; 6 in 12 days, and the remaining 2 in 30 days—the two last being very severe cases, and being much *bruised* besides sprained.

SPINA BIFIDA.

To the Editor of the 'Medical Times.'

Sir,—If the correspondent of the *Medical Times* who made inquiries respecting cases of *spina bifida*, under the signature of R. A., had looked, as indeed he ought to have done, into the various medical journals of this country before he asked his question, or supposed his case of that disease to be either curious or singular, he would have found more than one case of it recorded in those repositories of medical facts which, it is to be regretted, are so little consulted by the young practitioners of the present day, who frequently bring forward as new, observations and operations that have been made or performed over and over again before.

On the present occasion, R. A. will be satisfied, perhaps, with a reference to a really extraordinary case of *spina bifida*, related, as then living, by E. Jukes, Esq., surgeon, in the 47th vol. of the "London Medical and Physical Journal," page 106, accompanied by a drawing of the patient, (an adult young woman) with the tumour *in situ*, a cast of which is in the museum of St. Thomas' Hospital.

The admeasurements of that tumour being made the basis of calculation during the life of the patient, by the Editor of the Journal, Dr. Granville, it was found that its fluid contents amounted to one gallon, three pints, and two ounces.

The editor has likewise added a note in which he alludes to five other cases of the disease occurring in his practice, one of which had been carefully dissected by him in the presence of Dr. M'Leod and Mr. Hutchison of the Westminster General Dispensary, where the preparation was deposited. In a second note, the same editor refers to an interesting memoir on *spina bifida*, with some very remarkable cases by a Russian physician, contained in a volume of Memoirs of the Imperial Academy of Sciences of St. Petersburg, published in 1821.

Mr. Jukes' patient died a few years after the date of that gentleman's paper, when a preparation of the disease, with a portion of the pelvic bones, was made by Dr. Granville, which is now in the possession of Mr. North, surgeon, lecturer on midwifery.

It would puzzle, by the by, both Dr. Mar-

shall Hall, and his competitor, Dr. Carpenter, to account for the integrity of the phenomena, organic as well as functional, in Mr. Jukes' patient, notwithstanding so serious a deficiency of that nervous development which regulates the growth and functions of the abdominal extremities in man.

MEDICUS.

London, 2[illegible] January, 184[illegible]

TO CORRESPONDENTS.

We are able to express a confident hope of giving our readers a complete account, from the very best quarter, of the late Mr. Drummond's case in its medical and surgical aspects. We expect to do this immediately after the trial of the assassin; before that it would be perhaps not perfectly decorous.

Philos *is sincerely thanked. He is prayed to remember first, that a* class *work differs from one made for* general *circulation (as is well shewn by the high prices usually charged for a* merely *scientific journal or book) secondly, that "new brooms sweep clean." The same artist made the praised and condemned woodcuts, though certainly not with equal skill.*

S. R.—*The Berlin University is now in high repute from the distinction both of its surgical and medical professors. For pharmacy, Giessen is now usually preferred, from being the scene of Liebig's labours.*

A Friend.—*Gentlemen with degrees from Foreign Universities are not, therefore, exempted from serving on juries. Fellows or licentiates of the College of Physicians, Surgeons of one of the three national colleges and apothecaries have that privilege in England. Our Correspondent will find his other questions answered in previous numbers.*

M. R. C. S.—*The society of Apothecaries give medical journals no facilities for publishing the names of the new members. The circumstance is expressive of the general wisdom and liberality of their management.*

Medico-Chirurgus *has been, as he will see, anticipated in his suggestion.*

Bright's Farina.—*This article has been submitted for our judgment, and it gives us pleasure to speak of it as an elegant and delicate species of food, free, we think, from any tendency to produce acidity, and as far as our own experience goes, easy of digestion. This notice will make the invalids who profit by it our debtors; we wish, indeed, our editorial judgment were always invoked on subjects offering so pleasing a treat in the ordeal.*

M. D. sends us an authenticated *case of poisoning by Morison's pills. The patient (a lady) took by orders 6 pills at night, and 7 in the morning. "The consequence was hypercatharsis, with irritability of the stomach, and great debility of the constitution. diarrhœa followed, with great exhaustion of strength, and by means of stimulants and astringents she was kept alive until the evil effects of these pills was carried off." Our correspondent very properly expresses a hope that such cases should lead persons in authority to pay attention to the practical evil of quackery.*

B. N. *The possession of a diploma from any College is no conclusive proof that the possessor's scientific skill is sufficient. In any action, therefore, on incompetency that circumstance can only be made matter of presumption for the defendant in the hands of the jury.*

The Doomed Journal.—*A contemporary states on good authority that a respectable bookselling firm in Dublin, the name of which it mentions, was accustomed to sell four or five hundred Lancets weekly, and now sells but seven or eight altogether. A feather shews which way the wind blows.*

A Subscriber *to a fund for presenting that distinguished surgeon, the late Sir Charles Bell, with a tribute of respect from the medical profession, on the occasion of his leaving London for the metropolis of Scotland, desires to learn "the amount that was collected, and in what manner it was disposed of. Also if there be a portrait of him—by whom executed?—and its price?*

M. N.—A Chemist—R. W. S. Cottonus—Mr. S. P., Edinburgh—Musa—*declined with thanks.—Our other Correspondents next week.*

ERRATA.—In our last number in the second column, page 275, *dele "falsa,"* for "*ritue*" read *rigil*, and in page 280, at the end of article on consumption, for "*economy*" read *enemy*.

THE MEDICAL TIMES.

SATURDAY, FEBRUARY 4, 1843.

Salus populi suprema lex.

It is something to alleviate sickness—it is better to remedy it: it is best to prevent it. The two less social advantages are not of unfrequent occurrence. The scientific labours, the self-devotion, of our medical brethren, have done nearly all that human powers can avail to do, in detecting and combating death in every case where he is expugnable. The third duty—the duty, not theirs—but the duty of highest importance, viz., to *prevent disease*, has not yet been performed; and it becomes the necessitated office of our profession—still continuing its unfamed but noble mission of utility—to make known again and again to our rulers, the evils originating in the present system of public neglect of health, and to point out the best means by which this greatest of social boons—prevention of maladies—may be secured.

However neglectful public authorities have been in purveying for their subjects' protection from disease, we may still congratulate ourselves, as upon one of the results of advancing civilization, that they no longer pretend to excuse their inattention, in any silly faith that the spread of diseases is to be looked upon as solely the result of a supernatural power immediately interfering with the operation of its ordinary physical laws. The public writer, in these days, has only to prove that certain given causes, producing disease as their necessary effect, are allowed (to gratify some private cupidity or indolence) an unchecked range of action, when they might be removed by a due interposition of law, and the ruler resisting a change stands self-convicted, either of gross incompetency for his duties, or of a very wicked apathy in their discharge.

Now, while we admit that *much* has been recently done, favourable in certain directions to public health (and we derive from the fact of the increased value of human life that has thence arisen, a strong argument for making that *much* more), it cannot be too prominently shewn forth, that there are numerous widely spread agents in daily operation against the sanatory condition especially of the humbler residents of our towns, which, while only to be checked or removed by the governing power of the State, find in that governing power sometimes active support, frequently countenance, always impunity. We advance this statement in the boldest and most comprehensive words we can use; for, however startling it may be to those who, while aware of the injury to human life it infers, do not reflect that with our cumbrous, piece-meal system of sanatory law-making—and our inefficient system of sanatory law administration—no one of our thousand injuries to public health has, in ordinary circumstances, a chance of remedy in a *merely* POLITICAL senate, until the injury has grown to the height of an universal and unbearable nuisance, we have only to refer to the present horrible state of British sepulture—to our deficiency of town drainage—to the filthy condition of our supplies of water—to the squalid, dirty, and over-tenanted state of dense metropolitan neighbourhoods—to the absence of open spaces, in towns, for popular exercise and recreation—to the unnoticed condition of our slaughter houses and meat markets—to the adulterations which, encouraged by certain profit and impunity, take place in every article of food, and even of medicine—and to the thousand nuisances erected for any knave's or lunatic's convenience or pleasure, which no public officer ever feels it necessary to abate: we have, we say, only to give a moment's thought to all this, to see that the accusation which lies at the door of our laws, might have been couched in terms still stronger than any we have used, and yet be far from outstripping the truth.

A work, doing great justice to our views on this subject, and which does high credit at once to the feelings and abilities of the author, Mr. Curtis, has been recently placed in our hands. As the writer—a member of our own fraternity, we are pleased to remark—was among the first who publicly called especial attention to this great department of social improvement—the first edition of his work appearing four years since—we may, in whatever observations we wish to give, fairly give him priority to his able successor, Mr. Chadwick, the author of the "Report on the Sanatory Condition," &c.. Indeed, in following out our desire to call public attention to the question of Hygiene, we know of no better plan than to follow Mr. Curtis, step by step, through his principal positions.

The first subject touched upon, is the mode in which London is supplied with water: in reference to this, Mr. Curtis observes:—

The Thames is the principal source of the supply; and its water, if drawn from a proper spot, would be as good as could be desired; but, strangely enough, the companies which monopolise the sale of this important element, take it from a part of the river which receives all the impurities of the mighty city, and where it is asserted that fish cannot exist. This is the first evil to be removed. The wants of the metropolis could not be supplied without resorting to the Thames; but there is no necessity for using its corrupted waters. Why should not we go a few miles above London, and draw the needful supplies from the river before it reaches the city?

A project recently set on foot would, if executed, do much to obviate the inconveniences of the present system: I allude to the plan for forming a vast receptacle for the contents of common sewers, &c. &c. along the whole banks of the river; this would doubtless improve the

quality of the water: the other part of the project, viz. the construction of open walks and terraces by the river side, would also be a great change for the better, improving the appearance and increasing the healthiness of the city

But supposing the water to be derived from an entirely unexceptionable source, much would still remain to be done. The mode of its distribution to, and of its reception in, dwelling-houses, has an important effect upon its quality. It is at present conveyed by leaden pipes either into leaden cisterns or wooden casks. Water contains carbonic acid gas; this acting upon lead forms carbonate of lead, a white pow. er, which being conveyed in small quantities with the water to the stomach, acts as a slow poison, affecting first the digestive organs, producing dyspepsia, and finally terminating in ne vous apoplexy, or paralysis.

Also—

It is an established fact, that the best material for forming vessels to contain water is iron. Iron tanks have for several years been used in ships, with the greatest advantage: and there is no reason why iron cisterns should not be substituted on land for lead cisterns and wooden casks.

Of whatever material the receptacles for water may be formed, they should be often emptied and carefully cleansed. The purest water must frequently contain clay and other earths; these are deposited, and in time, if suffered to remain, become animalised; hence, be the water supplied ever so pure, it must speedily be contaminated. For the same reason, it would be better that a fresh supply should be furnished every day, even though each supply were smaller than at present. rather than (as is generally the case now) only twice or thrice a-week.

It ought to be added that filtering does not purify water, as it can only remove the impurities which are mechanically suspended in it, and not such as are in a state of solution. When water comes fresh into cisterns only two or three times a-week, as is the case with the New River water, filtering cannot much improve it, nor be successful in depriving it of its deleterious properties; we might as well attempt to remove the poison from a solution of arsenic by filtering. To prevent any injurious effects from its use internally, there must be a *chemical* process.

There is another mode by which an abundant supply of the purest water could be obtained, at least for drinking in any form, as for making tea, coffee, &c. which at the same time would greatly add to the beauty of the metropolis. I mean, the erection of ornamental fountains, which, giving out constant streams of spring-water, would impart an appearance of coolness which is very refreshing in the sultry summer months, and would materially assist in keeping clear the sewers, into which the superfluous water would fall. Every person who has visited the Continent must have admired the pleasing effect produced by the fountains with which most cities there abound; and it is truly surprising that so obvious a source of beauty and ornament has been so long neglected in this country. Let us hope that in this respect we shall soon imitate our neighbours; who, on this point at least, have certainly set us an example well worthy of imitation.

The erection of pumps is strongly advocated, and the state of the Continent in this respect is compared with that of England. Mr. Curtis states that in Berlin alone there are upwards of 2,000 public pumps. The sewerage is the next point adverted to, and the production of fever for want of sufficient drainage is pointed out: for instance, "in the fourth and fifth reports of the Poor Law Commissioners, it was stated that out of 77,181 cases of claims to relief during the year ended March 1838, 13,972 arose from fever in various forms, prevalent in certain localities distinguished by want of drainage and other causes." Such being the fact, the author might well say "few persons would have imagined that there was no sewer either in Cheapside, or Aldersgate Street; and yet such, till lately was the fact, sewers were recently, for the first time, constructed in both these leading thoroughfares. In the Old Kent Road, in Bethnal Green, and in some parts of Westminster, these indispensable requisites of a healthy residence are almost entirely wanting. The importance of drainage and sewerage is strikingly shown in the Report of Dr. Southwood Smith, respecting the causes of febrile affections, (which have for a considerable period been prevalent in Bethnal Green, and Whitechapel,) appended to a Report of the Poor Law Commissioners.

Provincial towns appear to be far worse off in this respect than London. Thus, in Mr. Chadwick's Report, a communication from Mr. Baker informs us, that in Leeds, out of 586 streets, only sixty-eight are paved by the local authorities, and of these twenty-nine are either not sewered at all, or only partially so. Dr. Duncan, of Liverpool, states that he is doubtful whether there is a single court in that town which communicates with the street by an underground drain. Manchester is quite as bad, and no where do the regulations, respecting sewerage, appear to be such as not to require amendment. At this season of the year. there is a periodical outcry respecting the cleansing of the streets, but no improvement has yet been made, yet it would seem a comparatively simple affair. Mr. Curtis says, "the inefficiency of the arrangements for cleansing the streets of the metropolis, has lately attracted considerable attention, and there can be no doubt that this is a crying evil, the removal of which would greatly contribute to the salubrity and comfort of London, and would be the more easily accomplished through the abundance of water. Not only the more crowded streets, but also the back courts and narrow alleys, wherein the poorer classes reside, should be cleansed, at least, once every day. The present condition of the public streets is decidedly injurious to the health and comfort of all classes. In no department of civic police is improvement more imperatively required. A self-loading cart, or street-sweeping machine, has been lately invented by Mr. Whitworth, of Manchester, which it is to be hoped will be speedily introduced into all populous towns. According to the description of it, given to me by its inventor, it is drawn by a single horse, and carries a series of brooms hung behind, which receive motion from the cart wheels, and successively sweep the surface of the ground, carrying the soil up an inclined plane into the body of the cart. The operation of sweeping, loading, and carting away, are thus performed simultaneously; and one horse, besides drawing the cart, does the work of twenty men."

The atmosphere of large towns is exposed to many causes of vitiation, from which that of the country is free, and our author gives many curious extracts from a rare work of the famous John Evelyn, (temp. Charles the Second), showing that this evil had attracted attention nearly 200 years ago; Evelyn proposed as a remedy for it a legislative measure for compelling the removal of all manufacturing establishments to some distance from towns. However practicable this may have been in those times, it is now, Mr. Curtis observes, impossible. "The advance of science, however, has put other and more simple means within our power for removing or abating the nuisance in question; all that is necessary, is an act compelling all factories, breweries, gas-works, *et hoc genus omne*, to consume the smoke which they generate, and not to pollute the vital element with their refuse. This measure I conceive to be of the utmost importance, and essential to the success of any other plans for improving the public health. Parks, and other places of public resort and amusement, derive the chief part of their utility from furnishing opportunities and inducements for exercise in the open air; but, if that air be tainted and rendered unwholesome, this becomes an evil rather than a good. The means to which I allude as enabling us to get rid of the nuisance in question, is the patent smokeless or argand furnace of Charles Wye Williams, Esq., which is an invention of considerable importance. Mr. Williams is the author of an elaborate treatise on the "Combustion of Coal and Prevention of Smoke, chemically and practically considered;" in which he gives an excellent exposition of the chemical theory of combustion, and ascertains the mechanical arrangements that are best calculated to burn with the greatest effect on the grate-bars, the carbonaceous fuel and its gaseous products. To the improper and imperfect combustion of the latter, are to be attributed those thick, fuliginous particles which, in the form of smoke, contaminate our atmosphere. Mr. Williams's agents, Messrs. Dincks & Co., of Manchester, have built a specimen furnace in that town for public inspection, and they have informed me that it has been visited by several of the nobility, as well as by the most intelligent engineers and manufacturers in that district. The novelty of this invention is, that the coals are burnt on the large scale of common engine-boiler furnaces without producing smoke; so that, as has been stated, there is literally no smoke to burn; and, indeed, Mr. Williams in his work, ably and most scientifically combats the opinion that "smoke" can be burnt, that is, with heat-giving effect; and, on this, he grounds

the want of success that has attended "smoke-burning" inventions generally for the last twenty-five years." Mr. Williams's may be called a system of prevention, and depends on a chemical knowledge of the due quantity of air requisite for combustion, and the best mode of regulating its admission. This plan is in use in many large establishments and public works, especially in Manchester and Liverpool, and has met with the approbation of several of the most distinguished chemists, and civil engineers,—among others, of Professor Brande, Dr. Ure, Dr. Kane, Dr. Brett, Mr. Parkes, &c.

There are several practical suggestions for affording greater facilities and inducements to the inhabitants of the metropolis for taking exercise in the open air, well deserving of the attention of the authorities, for instance.

Great satisfaction has been given to the lovers of out-door exercise by the occasional playing in Kensington Gardens of the band of the Horse-guards, stationed at Knightsbridge barracks; and it is to be regretted that this amusement is so scantily furnished to the inhabitants of the metropolis. In most country towns the regimental bands play frequently; and surely London ought not to be worse off in this respect than the country. It would add much to the charms of the Regent's Park, and induce many more persons to take exercise in it than at present, were the band of the regiment stationed at the Park Barraks, directed to play in it at stated times during fine weather. The band of the regiment stationed at the Wellington barracks might, in like manner, be directed to play in the enclosure of St. James's Park. If each of these three excellent bands were to play twice a-week, from three till five in the afternoon, a most agreeable recreation would be furnished to the inhabitants of the metropolis.

The Parks are not so useful to the public as they might be, partly because there is no means of getting refreshment in them, except milk, and cards and whey, which may be obtained at all the lodges. Were a casino allowed to be established in each of the Parks, where visitors could be furnished with breakfast or tea in the open air, in fine weather, the novelty of the thing would attract many, and thus induce some to leave their beds an hour or two before the usual time, and inhale the fresh morning air before it is impregnated with smoke. This measure would not cost the government one farthing, as a large rent might easily be obtained for the casinos, the greatest portion of which might be devoted to the improvement of the Parks. As a proof of this, I may mention that the rent received for the refreshment room in the Zoological Gardens defrays more than one-half of the annual rent paid to government for the whole of the grounds occupied by the society.

Although much has been done, there is still room for improvement. On the Continent greater attention is paid to procuring places of exercise and amusement for the inhabitants of towns than in this country. There are, however, indications that give us reason for hoping that our inferiority in this respect will not be suffered long to continue.

It would be very gratifying to the public were the gardens of Buckingham Palace thrown open at those times when the Queen is not residing there. Both at Paris and Vienna, the author observed that the grounds attached to the royal residences were at all times freely open to the people: and he feels assured that our amiable Queen would not, were the matter properly represented to her, refuse to grant this boon to the community, especially after the noble example given by William the Fourth, in admitting the people to his beautiful private garden at Windsor, which is directly under the windows of the Castle.

Again:—

The gardens of the numerous squares in the metropolis are not nearly so useful as they might be, owing to the exclusive spirit in which they are managed. Why should they not be opened at stated times to the public generally, in the same way as the Temple and Lincoln's Inn Gardens? Such a measure would be of great benefit. Gardens like those of Lincoln's Inn Fields or Russell Square might become pleasant places of resort to thousands of young people who scarcely ever see a green field. I am aware that, these gardens being private property, and intended for the use of the inhabitants of the squares, this plan could only be carried into effect with the permission and consent of the parties interested: but I should hope there would be no obstacle on their part. The number of persons frequenting these grounds is very small; those at present exclusively entitled to do so appearing to neglect them altogether. There need be no fear, I think, that this indulgence, if granted, would be abused, or lead to the damage of the gardens.

There has been much talk lately, both in and out of parliament, about providing places for the recreation of the people. Would Government object to pay a small sum for the purpose of keeping in order all the gardens that might be thus opened, and for making seats and other accommodations for the public? I should also like to see the Zoological Gardens, and all the Exhibitions, opened gratuitously two or three times a-year, on the anniversaries of great national events.

In connection with this subject, we may refer to the part taken by our author in the question respecting the shortening of the hours of labour,—for of what advantage is the throwing open of Parks, &c. &c., to those unhappy persons who are doomed to toil so long, that they have neither time nor strength to participate in the enjoyment of them. On this point Mr. Curtis says:—

There can be no doubt that most occupations are injurious, more by reason of the excessive length of the time of labour, than of any inherent unhealthy tendency; and that if men generally were acquainted with the laws of the animal economy, and applied their knowledge to the counteraction of the morbific influences to which they are daily exposed, they would escape many of the miseries which they now too frequently endure. Such would be the results if, for example, persons engaged in business devoted the time during which they are released from labour to the invigorating of their frame, instead of spending it in practices which aggravate the complaints occasioned by their employments, and convert functional into organic disease.

The proposal for shortening the hours of business, now so generally supported in London and other towns, is one, the adoption of which would prove highly beneficial to the health of a very large class of the community, and would not, I think, be any detriment to trade. The class in question has of late years improved so much in its habits, that there is little reason to fear that any additional time placed at its disposal would be mis-employed. The plan is certainly deserving of a trial.

We understand that Mr. Curtis has been personally exerting himself to prevail upon the employers to agree to some such plan, having called on many of the principal bankers and linen-drapers, who have expressed their willingness to forward this important measure. The last point to which we can at present advert, is that of Cemeteries, on which our author remarks:

The salubrity of the metropolis would be increased, if the practice of interring the dead within its boundaries were abandoned. For this reason, I rejoice to observe that the number of cemeteries round London is rapidly augmenting; and in a few years they will, I doubt not, entirely supersede vaults and church-yards—a result highly desirable on many accounts. Of the moral benefits arising from the use of cemeteries, and the admission of the public into them, much might be said—the advantages in regard to health must be obvious to all. It is highly desirable that interments in towns should be prohibited by act of parliament; or, at all events, that no new burying-ground should be set apart within their precincts, nor vaults constructed in any of the numerous new churches now in progress of erection. The Kensall Green, the North London, and the Norwood cemeteries are beautifully laid out—indeed, they are all admirable places.

The great difficulty in reaching any of the improvements we have been advocating, are the private interests more or less vested in every abuse. But a great public good is not for ever to be postponed to a petty personal interest. If it were, we know of no class who would be more justified in resisting a change of our present system than our own profession. The great mortality of children in the lower classes, evidenced by statistical research*—the constant presence of *spreading* fever in dirty districts of our towns—the high rate of mortality among certain classes of our artificers—and a thousand well known facts like these, are only to be thought on to convince us that one-third of our practice depends on causes which wise laws and a vigilant administration, might reduce to nonentity. Yet, if any class be found resisting this great improvement, or seeking to encumber public benefits by demands of private indemnity, we think we may pledge ourselve it will not be ours: and the circumstance leads us to a consolatory reflection, with which we shall conclude:—The age is not wholly worthless which presents medical men demanding the prevention of disease—and lawyers enacting the simplicity of litigation.

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[Exclusively compiled for the "Medical Times," from French, Italian, and other Continental Periodica.]

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* In the lowest districts of Manchester and Leeds, of 1,000 children born, more than 570 die before the age of 20.

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REVIEWS.

Practical Observations in Midwifery, with cases &c. By JOHN RAMSBOTHAM, M.D., Late Lecturer on Midwifery at the London Hospital, &c., &c. Second Edition: London, Churchill.

WHEN an individual offers to the public a compendium, or general system on any science, he provides no sinecure for his reviewer, who has to peruse the whole carefully, in order to find out what parts are his own, what theoretical problems he has solved, what practical hints he has offered, and what new suggestions he has held out, more than others on the same subject. But a very different task is presented to us in the work of Dr. J. Ramsbotham, when we have to deal with the practical experience of a practical man on a *few special* points, to which he has peculiarly devoted his time and attention. Such subdivisions of labour, (as they may be justly called) are eminently calculated to advance science, and dispose us to hail with cordial welcome all works, which, like the present, come recommended to us with so favourable a letter of recommendation.

To begin with the beginning, we cannot pass over the preface without a remark. Dr. Ramsbotham states that "he was for some time sceptical as to the effects of the ergot of rye in labour, but that he is now convinced of its efficacy; still he doubts on a general principle, whether its introduction ought to be hailed as a boon, or reprobated as an evil." Now a similar remark might with equal reason be made use of in reference to many of our most valuable remedies in medicine; all are evils if injudiciously used; shall we therefore cease to use them at all? Dr. Ramsbotham does not appear to have noticed those newest discoveries in connexion with the ergot of rye, which fully prove in it the existence of two distinct principles, a narcotic irritant, and a simple stimulant. When thus given combined, the ergot will of course be highly injurious; when separated, the stimulant powers will be as highly useful.* Before dismissing the preface, why let us ask did our author include in it the quotation from Dr. Dewes in praise of the work? As a matter of shop policy, would it not have been turned to better account if left for his publisher's advertisement?

Coming now to the work itself, we shall follow the subject in due sequence. The introductory observations on general principles are exceedingly well written. They are free from that prolixity observable in most recent authors; the principles are clearly laid down, and explain adequately the meaning of the author; and taken as a whole, are calculated to convey much information. We feel, however, disposed to hold contrary views on one or two points. First, we certainly did not expect to encounter so long, we can hardly say so strong a list of objections to the non-muscularity of the uterus, from the pen of an experienced practical accoucheur. In our opinion, the able arguments of Sir Charles Bell are conclusive. Dr. R. explains "of what muscle consists," and because the uterus does not present a strict analogy in *every particular*, he considers it *no muscle*. Now we humbly conceive that his definition *may be wrong*, and secondly, that there are other precedents for supposing that more than one species of muscle exists. In denying the muscular fibre of the uterus, the Doctor admits "that fibrous appearances are shown when a section of it is "*artfully made*." In the pursuit of science, we do not admit the term "*artful*," but think it easy to conceive that such may be the arrangement of the uterine structure, that no section would shew the fibres as the Doctor wishes them to appear, *and that after all they may be present.* With respect to the analogy which has been admitted by most authors between the uterus and bladder, the Doctor does not deny the muscularity of the latter, because (when inflated) it may be seen; and proposes to do the same by the uterus when inflated. The bladder is not stimulated to contraction by the *quality*, but *quantity* of the urine. If it were by the former, it would not retain the urine at all; as it is, the *quantity is regulated by habit*, beyond which, it becomes difficult to retain it. In our opinion, the uterus is more decidedly a muscle of powerful action within itself than the bladder. The latter can do but little towards emptying its contents if unassisted by the abdominal muscles, a fact proved by the sections made into the parietes of the abdomen when they have become incapable of voiding urine. It may be said the parietes abdominis assist the uterus in labour. Yes; but in a much less proportion. It has peculiar properties, differing from other muscular structures, the most remarkable being increase during gestation, and decrease after parturition. *We ask the question, therefore, if not muscular, what is it?* Being an organ strictly analogous to no other, and yet in most particulars resembling muscle in its functions, what are we to conclude but *that it is a muscle of a different species?* Because the only one of that character in the animal machine, it does not therefore cease to exist. But is not the Doctor a convert to muscularity after all? (Vide 3rd paragraph, page 5, beginning "I admit that")

The size, shape, and practical situation of the gravid uterus are well described, the particulars respecting the placenta are also well given, and afford us a good opportunity of presenting a specimen of the author's style.

THE FUNCTIONS OF THE PLACENTA.—It is an organ found for, and appropriated to, the absolute service of the fœtus; attached by the funis umbilicalis, it is the only means of communication between the mother and the infant within the womb; it is, therefore, the sole medium through which the principles of nourishment and growth can be conveyed from the mother to her child. The fœtal blood distributed by the branches of the umbilical arteries to their extremities in the placental mass, and deciduous membrane, is there exposed to the influence of the maternal blood brought to the uterine openings abovementioned, and is impressed with certain benefits necessary to the continuance of fœtal life. The fœtal blood thus replete with that nourishment and vivifying *something*, which it has acquired in its passage through the placenta, is returned to the body of the child by the umbilical vein, and is then quickly circulated over every part of the child's body. The blood of the child, under this state of improvement, may be assimilated to that of the adult after its circulation through the lungs and its return to the left side of the heart. If interruption to the free return of the fœtal blood from the placental circulation should be induced by any cause, the life of the fœtus will be as certainly destroyed, as if the free passage of the air into the lungs were prevented under breathing life. When the placenta is partially separated from its uterine attachment, a loss of blood, proportionate to the quantity separated, and to the development of the uterine vessels, is a necessray consequence. The blood lost under such circumstances is maternal, not fœtal; and if after such an occurrence, the fœtus should be deprived of life, its death is produced by, *in the first instance*, the diminution, and at length by the entire deprivation of that vital impression which is communicated to the blood of the child by its passage through the placenta. But when the mass of the placenta itself is ruptured, as, for instance, by the passage of the hand through its structure into the uterus, under a case of implantation of the placenta over the mouth of the uterus, the blood of the child will be discharged through the lacerated vessels.

The author speaking of uterine action says, "the child whether it be alive or dead is wholly passive." This may be true, but during a long experience we have invariably found dead fœtuses to produce protracted labours. This is a fact known to many, and it seems to prove that a *living child* in utero is a stimulus to that organ tending to shorten labour.

On Natural Labour.—The author's observations are lengthy and valuable; it would be impossible to follow him through them all, but we recommend attentive perusal. We shall only touch upon those parts which appear to us to differ from other opinions, or on which some doubts may arise. Dr. Ramsbotham says, "the pressure of the head of the child on the soft parts proves an increased stimulus to uterine action, and expulsive efforts are the consequence." This is not sufficiently explicit. We believe most obstetric writers are unacquainted with the fact, that there are two distinct actions set up in the structure of the uterus during labour; the first is dilatatory, during which no expulsive efforts are present, and which are confined to the cervex uteri, and its immediate neighbourhood; when this is completed, a second action is set up (*expulsive*) by the uterine structure of the upper walls and fundus uteri. The head of the child passes the os uteri, and presses on the soft parts, producing by that pressure, what? A sympathetic action of the diaphragm and abdominal muscles *hitherto inactive*, but now *powerfully assisting expulsion.* We have noticed these interesting phenomena for many years, and as illustrative of them may mention that if two fingers be gently introduced into the vagina, and pressed on the perineum, the diaphragm and abdominal muscles will be excited to action. A similar influence is produced by fæces in the rectum, causing propulsion. We have here a valuable adjunct in labour when used with due caution. Though this fact has long been known, a writer in the *Lancet* claims it as a discovery. He explains the action on the principles of Dr. Marshall Hall's theory of nervous distribution.

On the expulsion of the head, shoulders, and the body, there is often an intermission of pain, and our author recommends waiting "however long the intermission may prove." We think gentle friction by *grasping the integuments of the abdomen with the hand, and*

* See the experiments of M. Bougeen, M. Bodin, and Dr. Clay, of Manchester. Med. Times, vol. 6th, page. 355.

moving the mass over the uterus can do no harm, it generally produces the required pain, and in our opinion is better than waiting long. The Doctor's remark 'the child should be rather entirely expelled, than even partly extracted," is excellent. As to the time for bringing away the placenta after delivery, the author's arguments favour a greater length of time than seems to be strictly necessary. And we are disposed to dissent from him entirely, when he states in respect to the placenta "deferred as long as it seems consistent with professional duty so to do, or the clamours of the attendants will permit," and again as to manual extraction of the placenta, "The friends of the patient and even the patient herself, should also in most instances be apprised of the intended operation, that their *complete sanction and permission may be obtained*." Surely we misunderstand the author; if not, we are bold enough to say the rules are bad. For ourselves, we would eject all *clamorous attendants* from the chamber, *sans ceremonie*; though to the patient we should think it right to state what we were about to do; but when our author speaks of *asking permission to do our duty* of those who can know nothing about its requisitions, he compels us to ask what *could* have been his meaning? Should the patient or her attendants object to what is required, there is an end of the matter. In that case the accoucheur had better make his bow, and give way to those in whom they can confide. The directions of the author (page 38) on proceeding to extract the placenta appear to us remarkable. In conducting examinations, or rendering manual assistance, &c., *the patient*, we perceive, *is laid on the left side*, and Dr. Ramsbotham uses his *left hand* for introduction, and the *right* for application over the parietes. If this work was intended merely for a record of the Doctor's *own experience*, it would matter little, but if intended for the instruction of others, he should have prefaced these remarks by informing the reader *that he was ambidexter*. The profession as a whole *are not so*, and to say the least of the instructions they are not the most decent. We have always understood, when the patient lies on her left side, (the more proper) the *right hand* ought to be introduced, and *vice versa*. If there be anything in the nice discrimination of the organ of touch or in physical power, the right hand should have the preference. Suppose the accoucheur sitting at the bedside, the patient on her left side, the right hand is easily and most conveniently situated for introduction, and the left, under cover of the bedclothes, can as easily command the parietes. Indeed the left hand cannot be used for vaginal introduction without placing the patient most indecently across the bed, with the nates almost in the lap of the practitioner.

The following paragraph deserves especial notice in reference to febrile diseases arising from the suppression of the lochial discharge after delivery.

The sudden disappearance of this discharge within a few days after delivery, with an enlarged uterus, is usually a prelude to dangerous disease, with febrile symptoms. *It is not to be supposed* that this sudden disappearance *produces these symptoms, it is the mere indication* of the accession of disease, of which such symptoms are the necessary attendants. We, therefore, pay little attention to the present interruption of the lochial discharge, except *as a symptom*, and use no specific means for restoring it, or, for *obviating* its supposed bad effects; we apply our endeavours to the removal or relief of that cause, by which the temporary interruption is produced.

We know this to be the opinion of many writers, but long experience has convinced us of its fallacy; too little attention has been manifested towards the missing lochia, and too much to the consequences (fever). We think it easier to restore the lochia by hot fomentations, hip baths, camphor, and opium, and thereby check the febrile symptoms; than to lose sight of the lochia, and treat a fever, which, if it once fairly sets in, we have great difficulty in controlling. We repeat it; the suppression of the lochia *is the cause*, and not the consequence of fever, at least that is our opinion.

On adhesion of the placenta, the author is decidedly at home, and we would recommend his observations to the perusal of all obstetricians. Much benefit may be derived from the practical illustrations by cases appended to them. Simple retention of the placenta from want of uterine action, and also from irregular contraction of that organ are ably treated. If anything, we think the Doctor waits a little too long on the average before he attempts extraction.

We had proceeded thus far in our remarks, when our attention was arrested by the uncertain statement as to the ultimate result of many of the cases illustrating this work. All cases on so important a subject should assuredly end in a manner to leave no doubt of their ultimate result. Many are of this uncertain character.—"Case 6th. She began to revive from her fainted state; [illegible]th. This woman was left under a state of great exhaustion, but in a few days she had so far rallied as to *promise to do well*; 16th. I left the poor woman under a state of great exhaustion, but in a few days she had so far rallied as to *promise hopes of her recovery*; 17th. I was permitted to leave the house about one in the morning, and the *next day* she was *as well* as after any of her former confinements; 19th No result; 22nd. The next morning I was informed this patient had passed a tolerable night, and that, *upon the whole*, she seemed in a more comfortable state than, from her preceding sufferings would possibly have been expected."

On disruption of the placenta, we certainly agree with the author that it ought seldom or never to occur. It is almost always the offspring of ignorance or mismanagement. We do not, however, coincide with him when he states "that after failing in the first attempt to remove the adherent portion any further, manual assistance is inadmissible." The first attempts are generally by inexperienced or ignorant practitioners; and when a second person is called in, the least *he can do is to try and satisfy himself whether it can be effected or not*. The serious and often fatal results of cases left to medical aid only, is sufficiently alarming to warrant a little more manual assistance than the author advises; two cases out of five, of his own illustrations, being fatal. His medical treatment—it must be said, however,—is well conceived.

Cases of relaxation of the uterus after delivery productive of internal hæmorrhage come next under notice, and however much we may admire the candour of the author, we certainly feel some surprise at not finding any allusion to *padding* and *tightly bandaging* the uterine region *most valuable adjuncts in obstetric practice*. We smile to find the author fixed for many hours together applying mechanical pressure with his hand, when a *full* dose of *good* ergot and a *well applied bandage* would have effected the purpose much better; the warmth of the hand having a tendency to increase hæmorrhage. *Collapse after Labour* the author attributes to the too sudden removal of pressure, arising from the want of accommodation of the abdominal viscera, or from the impression, or shock on the mind, from having a dead child, &c. The only hint we see of bandaging in this chapter, is conveyed in the following words. "I recommend a proper degree of pressure on the abdomen *by the hand or otherwise*." Indeed, the omission of bandaging seems to us, of the most serious importance throughout the work. We have seen many cases of progressing collapse immediately arrested by *a bandage*, and all obstetric practice must be deficient without; for if collapse arises from the too sudden removal of pressure, what better means can we suggest than artificially to restore the pressure.

On protracted labours the author is lengthy, classing all under that heading if more than of twenty-hours continuance. We have, 1st. Those of mere lengthened duration as to time; 2nd, Those requiring more than natural efforts; 3rd, Those in which the child's head and pelvis are slightly disproportionate. The first or lingering, he accounts to arise, 1st. From undue resistance given by the soft parts; 2nd, From the diminished energy of actual efforts; 3rd. From malposition or direction of the head in the pelvis. With regard to the undue resistance given by the soft parts, the author's description, treatment, &c., are worthy the importance of the subject. He very justly condemns any attempts to hasten labour by irritating the os uteri, artificial dilatation, exhibition of stimulants, frequent examination, or that very pernicious practice of rupturing the membranes, in which we fully agree. We do not, however, see any hint in this chapter to the effect that very many of these cases (among the working class particularly) arise from over exertion, and bring on what may be termed premature labour, when the secretions are absent, and the soft parts not fitly prepared for the purpose. Very many cases have we witnessed of this nature, where, instead of interfering or waiting for nature to work out the problem when she is ill prepared for it, we have given a *powerful opiate*, enjoined quiet, and prohibited stimulants. Such cases have been days, nay, some four or even six weeks before natural labour came on, when there being an abundance of mucous secretions, and the parts being well prepared for the transit, the accouchment has been of the usual character. In all cases of protracted labour *one enquiry is imperative*. Is the patient at the full period of gestation? If there is any reason to suppose she is not, labour ought not to progress if it can be controlled by any reasonable means. As means of relief, the author proposes five classes,—opiates, venesection, clysters, fomentations, and placebos. We think the division useless; the whole being medical, would have done as well under one head as five. To opiates the author is unfavourable. Now we hold them valuable when used judiciously. As stimulants only, we consider them inadmissible. In controlling uterine action when premature, they are, in full doses, highly valuable; and we are warranted by experience in declaring that females under such circumstances will bear much larger doses than at any other time. We quite agree with the author that no relaxation of the soft parts, or increase of their secretions takes place from the exhibition of opium. On blood-letting, he speaks more favourably, but with becoming caution. Great discrimination is requisite in bleeding, particularly in habits previously of delicate stamina. Clysters being harmless, may almost always be used with advantage. On fomentations, Dr. Ramsbotham offers no experience, although practitioners in other countries speak highly of the warm bath. With regard to the last division, (harmless fraud or placebo medicines) we must at once declare them unwor-

thy of any practitioner of high standing as an accoucheur.

In considering the second class of protracted cases, viz., those from diminished energy of natural efforts, the author says nothing of opium. Now if the parts are not duly prepared, and a cessation of pains occur, it should be remembered, that a good opiate procuring a few hours rest, will bring on pains afterwards, fully capable for every purpose. If the soft parts are well prepared, and the os uteri well dilated, the ergot is the best and only resource. The author, however, speaks of it cautiously and evidently as a late convert to its powers. He says, sometimes it is found almost inert. So is opium, and why? Because the cupidity of druggists (favoured by neglect of selection by the practitioner) induces them to vend old specimens which of course are inert, and the failure should be attributed to the drug, and not to the idiosyncracy of the patient. In cases of protraction of this nature, the author states there is often trouble with the placenta, for want of uterine action. We should say scarcely ever if the ergot is properly used. As to asphixia of the child, we have an impression, that giving the ergot in substance will produce that state; but that if the infusion be given, no asphixia, or at least, only an asphixia of a very trifling nature will occur. The author, we regret to observe, appears not to have paid due attention to the late discoveries on the ergot

The author's remarks on protraction from malposition, or direction, are both cautiously and judiciously written. The person given as an illustration (45) in our opinion, would have had her anxieties sooner relieved by a bold opiate and quiet, than by the perambulations recommended to her; the pains would in all probability have returned much sooner. The next subject of enquiry—"protracted labour, under a natural presentation combined with a slight degree of difficulty;" in other words, "forceps and vectis cases" is an ably written chapter, shewing to considerable advantage the capabilities of the author. It would be impossible to follow him through the whole of this excellent part of his subject, there being no less than fifteen heads or divi ions, establishing the necessity for instrumental interference, but with every deference to the author, we think case 51 more adapted to the long forceps than the vectis, and that case 55 exhibited a great waste of time. While admiring the author's candour, we beg to assure him that the application of some unctuous substance would have improved the process a little. In protracted cases combined with *greater difficulties*, the author is feelingly averse to cephalotomy, except under the most urgent necessity. He then uses the common crotchet, but speaks highly of Dr. Davies' forceps for craniotomy. In the section, "preternatural labours," the author endeavours to establish a diagnosis for ascertaining breech presentations before labour, which we think not sufficiently conclusive.

On shoulder presentation the author makes the following valuable remark:—

> Every case in which the presenting part does not come within range of the finger, especially after the establishment of pains, and relaxation of parts, ought to receive an unusual share of watchful attention, for that fact alone ought to excite a justifiable suspicion, and some other part of the child except the head may be placed at the brim of the pelvis.

The author is particularly desirous that the practitioner should not lose the favourable moment for "turning with advantage by any inattention or absence, &c.;" and the directions are so well given, that they cannot be studied without advantage.

On uterine hæmorrhage, a subject of immense importance, the author is much more brief than we expected. The fact of spare and thin persons bearing loss of blood better than those of corpulent habit, has often been asseverated, and is confirmed by our author, who is averse to bleeding in hæmorrhage, because it is generally passive; speaks also cautiously of ergot, but in other directions and applications of manual assistance, is more decided. Uterine hæmorrhage the author divides into "accidental, and unavoidable." On "rupturing the membranes, turning, &c.," there is nothing new; the same may be said of "unavoidable hæmorrhage" with one exception. We think some degree of caution is required in proceeding to deliver, where the placenta is attached over the os uteri, particularly when the os uteri is a little *dilated and rigid*. We have seen powerful opiates allay the pains, and consequently the hæmorrhage, very frequently. The inference is, that the process of labour is premature, and the case has gone on for days or weeks longer, pains have again occurred, and even hæmorrhage, but under the more favourable arrangement of the os uteri in a dilatable state. This should be borne in mind, and if practicable tried rather than rupture, when the os uteri is rigid and scarcely dilated. Parturient convulsions previous to, and subsequent to labour, is a part of the work well worthy of perusal. With regard to the first 'on venesection," the author observes, "if the lood does not flow out in a powerful jet, little good arises from it." Indeed he goes so far as to say," if it flows lazily from the orifice, it would have been better not to bleed." Now here we do not fully accord; we know the value of a rapid abstraction of blood, but think the form of the incision may often prevent the blood rushing out like a jet, and yet the abstraction be quick. Copious and repeated bleedings, powerful evacuants, &c., are almost the only means in convulsions *previous to labour*, with delivery when it is practicable. Should convulsions continue during delivery the same means must be resorted to, more energetically applied. On the still more intractable *convulsions after* delivery, opiates and stimulants are jus ly condemned, and enemas of assafœtida, and ol. terebinthinæ recommended.

On multiple births nothing very remarkable occurs. The author is of opinion that conception is simultaneous in cases of twins, &c., but gives no reason for so thinking. There is no certain criterion during pregnancy to indicate twins The children are generally smaller, and the mother larger, but we do not think with the author that in such cases there is less chance of arriving at the full period of utero-gestation, although the probability is generally acknowledged to be smaller in triplets, or quadruplets.

The article "*abortions*" is exceedingly interesting, but somewhat unconnected. The treatment of abortion by bleeding he justly condemns; he might have included astringents also. We think opium in full dose the *sine qua non* of practice, in preventing abortion, a remedy on which he is silent. The Doctor's candid statements in respect to *rupture of the uterus* are deserving of great praise; he appears to have no wish to hide his unsuccessful cases, of which he has recorded thirteen. Three successful ones shew most clearly that rupture of the uterus is not necessarily fatal; indeed, we are convinced after so many cases recorded by Douglas, Murphy, Mitchel of Dublin, and others, that such should not be given up as hopeless. The modern operation, peritoneal section, sufficiently proves to what extent we may go with safety, and how much females will bear in the hope of relief, and recover fter the most extraordinary extent of injury.

With respect to *retroversion of the uterus*, a subject of much importance, it would be better (in our opinion) not to wait; but at once replace the organ in its normal position, if possible. We must name our dislike to the position chosen by the author for his patient. Might not an equally effective and more delicate one be chosen? His observations on the attention to be paid to the bladder by the catheter are most important.

In polypus of the uterus (which is sometimes mistaken for long standing inversion of the uterus) the author advocates the removal by ligature in preference to the French mode by curved knife. When polypi are connected with os uteri and cervix, authors (generally) have added more to their importance than they deserve, making their extirpation a tedious process (as the ligature). We have without loss of time frequently removed the mass by twisting when the pedicle will give way, and the tumour has come into our hands without hæmorrhage, or the slightest bad symptom. By this mode the pedicle is most likely to give, way at its origin, and less likely to returns We do not say this summary practice is always advisable, but when the pedicle is slender, it saves much pain and offensive discharge. The volume concludes with a case of sudden death during pregnancy, after considerable excitement. The autopsy confirmed the author's idea that death arose from disruption of some vessel in the uterine structure of considerable magnitude, which he supposes to have had the same effect on the gravid uterus as blood effused on the brain.

In conclusion, we must be permitted to say, that we have felt great pleasure in the perusal of this work. It contains much practical information, great candour in the relation of experience, without a wish to hide the unsuccessful portions. The reader will profit by it if he use his powers of discrimination There are, as in all works, some faults visible, as we have very freely noticed; but its good points are many, and make it a valuable addition to our obstetrical literature. The points on which we differ are few and our readers have our objections at their judgment seat. On the valuable portions of the wor we have freely descanted, and with our bes wishes for future success, we cordially take our leave, hoping that others imitating his good example, will record *their own experience* more, and other people's less; and not give themselves so much trouble in extracting our hard-earned fees from our pockets by presenting us in new type, and under new fancy covers, learning which has long reposed between the parietes of every decently lined medical caput in the kingdom—a professional theft on our money, and time, which should make such meddling carriers of other men's wares as hateful to men—as by their hopeless poverty they seem to be to Gods.

An Essay on the Nature, Causes, and Treatment of Deafness, &c. by W. Thornton, M.R.C.S.L., late Surgeon of the 97th Regt. —Churchill.

Before expressing an opinion on the merits of this small work, we must, as a warning, in justice owing to our readers, acknowledge some personal predilections for the gallant author. Though unknown to us, personally, he has been good enough to inform us of the pleasing fact—so favourable a *prima facie* evidence of the goodness of his taste and the extent of his good sense—that he is a weekly subscriber to our "highly valuable periodical."

he has favoured us once or twice with cases of ' deafness, arising from morbid conditions of the mucous membrane of the stomach," or of some other part equally connected with aural disease—in which cases the "successful treatment" was a very prominently exhibited feature—and we have, finally, to acknowledge the gift of the book before us, with a very courteous request "for the honour of a notice," accompanied with the outshadowing of an indistinct hope to us of a voyage to that El Dorado of Journalists—"Advertisements." Thus weighed down by a gratitude which is not the less lively because it has a deligtful reference to favours yet to come, our readers will be pleased to take our commendations with some little distrust, and give us credit for no mean sum of impartiality, if by any accident we so far conquer our prepossessions as to reach the length of an occasional censure.

Some time since, it was our painful duty, in reviewing a brochure on the Ear, to express a rather marked disapprobation of another Aurist—a very general favourite of our hebdomadal contemporaries—we mean that very, very active gentleman—Mr. Yearsley. As we have peculiar notions of the duties of reviewers, we not only criticized, but *read* his book; and as the impression was rather an unpleasant one, that greatest of human traitors, memory, which so remorselessly lets slip any delightful reminiscence, retains to this hour a tenacious grasp of almost every word, nay, every syllable, imprinted during that afflictive visitation. This freshness of recollection, this mental malady of an ill-fated editor, ought to be no offence in either Mr. Yearsley or Mr. Thornton—but it is certainly an unfortunate circumstance for one of them; for the coincidences, nay, the identity of opinion and of expression, on professional subjects, which the two authors exhibit in their different books are so perfect, as to justify the notion that the two gentlemen have joined together to keep up two aural establishments on one stock of trade. They appear to exhibit an economy of the "raw material," a saving of that priceless commodity, knowledge—for which the scientific world owes them the deepest obligations. Let us present a few examples:—

THORNTON.	YEARSLEY.
Sudden transitions from heated assemblies to the *cold air*, or *vice versa*, are much more likely to occasion *cold*, than exposure either to an uniform high or low temperature, and should, therefore, be avoided. As the mucous membrane is the chief point affected by *cold*, or injurious influences, all causes that act upon it prejudicially should be held in apprehension; and cold and humidity being by far the most frequent of these, and affecting the ear in the greatest variety of forms, should be guarded against with the most sedulous care.	As the mucous membrane is the chief point affected by injurious influences, all causes that act upon it prejudicially should be held in apprehension, and cold and humidity, being by far the most frequent of these, and affecting the ear in the greatest variety of forms, should be guarded against with the most sedulous care. Sudden transitions from heated assemblies to the cold air, and *vice versa*, are much more likely to occasion cold than exposure either to an uniform high or low temperature, and should, therefore, be avoided.
In these diseases the mucous membrane is the first tissue affected, though the continuance of the disease in either form often leads to disease of other structures, especially the osseous and muscular contents of the cavitas tympani. Suppuration of the ear, through the membrana tympani, may justly be regarded as the termination of inflammation of the mucous membrane, the tumefaction of the membrane having closed up the minute opening of the tympanic extremity of the eustachian tube, had the pressure exerted by the closed cavity upon the inflamed membrane occasioning pain resembling that which happens when the pulp of a tooth inflames within its osseous envelope. In the chronic form of disease the same thing happens, but in a less marked degree.	In these diseases the mucous membrane is the first tissue affected, though the continuance of the disease in either form often leads to disease of other structures, especially the osseous and muscular content of the cavitas tympani. Suppuration of the ear, through the membrana tympani, may justly be regarded as the termination of inflammation of the mucous membrane, the tumefaction of the membrane having closed up the minute opening of the tympanic extremity of the eustachian tube; and the pressure exerted by the closed cavity upon the inflamed membrane occasions pain resembling that which happens when the pulp of a tooth inflames within its osseous envelope. In the chronic form of disease the same thing happens, but in a less marked degree.
In the first, the discharge comes from the cavity of the tympanum, with loss of continuity in the membrana tympani; in the second, the discharge is secreted in the external meatus alone. *Internal Otorrhoea* is always the result of inflammation of the mucous membrane, or *otitis*, and generally of the acute form of this disease. External otorrhoea generally comes on in consequence of irritation of the membrane within the tympanum. Sometimes it occurs in cases where there is no sign of disorder on the intended side of the *drum*, appearing *per se* from the lining of the meatus. But even granting this to occur oftener than I believe to be the case, I consider the pathological characters of disease of the lining of the meatus to be altogether different from those of the skin, and closely resembling, in this respect, mucous membrane. The cuticular lining, as it is termed, and the sebacious follicles which secrete an unctuous matter in sufficient quantity to keep the canal and external surface of the membrana tympani in a moist state in the progress of otorrhoea, gradually passes from the natural secretion to the copious discharge of mucus, or even pus, without the intervention of suppuration;—circumstances which never occur in the common integument.	In the first, the discharge comes from the cavity of the tympanum, with loss of continuity in the membrana tympani; in the second, the discharge is secreted in the external meatus alone. Internal otorrhoea is always the result of inflammation of the mucous membrane, or otitis, and generally of the acute form of this disease. External otorrhoea generally comes on in consequence of irritation of the membrane within the tympanum. Sometimes it occurs in cases where there is no sign of disorder on the internal side of the drum, appearing *per se* from the lining of the meatus. But even granting this to occur oftener than I believe to be the case, I consider the pathological characters of disease of the lining of the meatus to be altogether different from those of the skin and closely resembling, in this respect, mucous membrane. The cuticular lining, as it is termed, and the sebaceous follicles which secrete an unctuous matter in sufficient quantity to keep the canal and external surface of the membrana tympani in a moist state, in the progress of otorrhoea, gradually passes from the natural secretion to the copious discharge of mucus, or even pus, without the intervention of suppuration, circumstances which never occur in the common integument.

And in a little pamphlet, which, including title-page, index, and preface, numbers but 44, pages we have 16 in which the similarity, or rather the identity, is equally singular. Now, we are credibly informed that there really does exist no partnership between the two authors, that on the contrary, Mr. Thornton disclaims, with much *hauteur*, any and every connection with Mr Yearsley, and we further know from our publisher's circular, and from our own announcements, that the book first *openly* published (though both appeared in 1842) was Mr. Yearsley's. Under present circumstances then, and until we are differently advised, we may make bold, we hope without injury to a modesty—which we suppose not to be more maidenly than suits a professional aurist—to compliment the gallant army surgeon on the Napoleon-like daring with which he walks into the very camp of the enemy, and despoils it of its richest stores. Surgeon Thornton has evidently not campaigned for nothing,—and the dexterity, the unflinching ease, with which he beats his rival with his own troops, entitles him incontestibly to rank as generalissimo of the aural army. The *Lancet*, a *very* high authority, declares Mr. Thornton, "to be well versed in the diseases of the ear," and we may venture to add, that, however versed in diseases, (happy, critical expression!) he is not less well versed in the treatment of that class of them which appertains to the *res angusta domi*. If candour were one one-half as profitable as boldness, we should have a new reading in his next edition,—"diseases of the pocket" would substitute "diseases of the ear."

But one word more to Mr. Thornton, before leaving him to the tender mercies of the College of Surgeons, who, after this enumeration of his merits, will no doubt find it convenient (the envious Council!) no longer to be overshadowed by the dazzling radiance of his professional daring. "Let him that hath ears to hear—hear." You tell us, in your book, "of *pretended* aurists"—you declaim against their ignorance, which, you asseverate, has not been profitless of good only, but instrumental of injury; and you hopefully prophecy an era of aural wonders, from the competition arising from your appearance in the professional market. Now, you have sent the journals, cases of "cured deafness"—why was the name and address of the patients invariably omitted? We have at this instant in our hands, your MS. relating a case of "successfully treated" deafness, sent to us this week. How happens it that the imaginary girl having but disease of *one* ear, ("the other being perfect") you yet speak of obstructions in the eustachian *passages*—evidently demonstrating ignorance of the elementary anatomy of the ear? How is it that you talk of an "*elongated* tonsil," and of giving a lady forthwith three notes, by touching it with lunar caustic? How is it that you tell us the cure was effected by bougies and iodine, and mention, as your reason for publishing it, the wish to illustrate by it the importance of the vapour douche? In fine, who is the professional singer?—where does she live? When all these questions are answered satisfactorily, we shall allow you to encourage hopeful expectations of what science may expect from you—to declaim against your brother-aurists, as mischievous wrong-doers and pretenders—and to put yourself forward to your fated patients, in the worthy *Lancet's* words, as "well versed in diseases." Till then, we must brand you as a living, moving, mischief-making disgrace to the profession you encumber by your membership, and hold you up as a warning of what one medical journal, at least—the only medical journal not in bookseller's hands—will do for men who think they can publicly contemn decency and virtue—rush into the vilest kinds of empiricism—and yet carry with them, through all their filth, the support of what *should* be the profession's guardians—its own press—if they but enter themselves as subscribers to the publishers, and talk about advertisements to the proprietor

Absorption of Iodine.—M. Leon Brousse has tested the urine of several patients who had been treated for hydrocele by the iodine injection. In every instance he was readily enabled to discover the metalloid in the urinary secretion by the third or fourth day after the operation, and in one instance, at least, as early as the second day. In this case, that of a Spaniard, forty years of age, the scrotum continuing swollen, and evidently containing fluid five weeks after the operation, it was punctured with a lancet, and a sanguinolent fluid evacuated, which, on being subjected to the usual tests, yielded evident indications of the presence of iodine.

ROYAL COLLEGE OF SURGEONS, LONDON.

List of Gentlemen admitted Members on Friday, Jan. 27, 1843:—

C. Withington, W. J. Preston, T. H. Benfield, A. Cartwright, S. Byles, J. Prowse, S. Singleton, T. Young, J. R. Lewer, T. Spencer, D. Coulter, C. H. Perry.

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SUMMARY.

ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR, TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. SERRES, Member of the Institute, of the Academy of Medicine, Professor to the Museum of Natural History, Paris, &c., &c., &c.

SUMMARY.—*On the principle of determinations in comparative anatomy—general facts on organogeny and embryogeny—anatomical philosophy of Aristotle—application of the idea of the final causes to the organisms of man and animals (Galen)—union of the method of Aristotle with that of Galen (Haller)—object of the general sciences; their modes of proceeding—the descriptive sciences—nature of the facts serving as the basis of these two orders of sciences—their inconveniences and imperfections.*

We may, then, consider the following propositions as established in organogeny and in general embryogeny.—That the organs are compound bodies; that the materials or elements which compose them are primitively multiple and disassociated; that it is, from the mode of their reunion, that the principal organic variations result and, perhaps, also the fundamental arrangement of the more inferior animals.

It is further established: That the more we descend in the animal scale, or the further we advance in embryonic life, the more do we find the division of the organisms increased; that, consequently, these two states of animality correspond in the lower animals, and in the course of the embryogeny of the superior animals; that this general fact being reproduced throughout the whole animal kingdom, it results that organogeny is but a transitory comparative anatomy, as in its turn comparative anatomy is in some measure a permanent general embryogeny.

Finally, it is established: That, from the complication of the organisms in embryos and animals, and from the evolutions which they undergo in these two states, result organic species, and, perhaps, also animal species, especially in the branch of the invertebrata. It therefore follows that, supposing organisms to possess a common point of origin, their differences become established by the greater or less number of evolutions which they experience in the course of their developments. It further follows, that to found upon positive results, either the scale of beings, or, what amounts to the same thing, the scale of their organisms, we must compare the two states of animality at the period at which they correspond; that is to say, the embryogeny of the superior animals with the fixed and arrested organization of the inferior animals.

These first principles, however, being established, new difficulties present themselves in the theory of the epigenesis of formations. We may readily conceive, from the foregoing observations, how difficult it becomes to preserve a correct line to guide us through these continual variations,—these so varied combinations of the constituent materials of organs, whether in the animal kingdom, or in the course of general embryogeny. These metamorphoses, in fact, so completely change the organs and the organisms, that, without a rigorous method of determination, we should be liable to combine organisms of a very inferior rank with organisms of a much more elevated character; to draw together organic elements which naturally repel one another, and to set apart other elements which have a mutual attraction; to compose, in a word, true scientific monstrosities. To avoid this confusion, which has already produced such grievous results in the determination of the organisms of invertebrated animals, it is more than ever necessary to lay down rules which may serve as a guide in this branch of science. Such, then, is the task which I propose to myself in the following observations.

To determine, in the anatomical sciences, is to fix the principles by which we may distinguish an organ, or a system of organs. Determination is the basis of the philosophy of these sciences, as facts are the basis of their material part. These are undoubted truths. But naturalists have hitherto attempted this determination of parts, sometimes by the simple consideration of the function, sometimes by the consideration of the form, and at other times by that of the form and function combined; position and connections were, in general, almost entirely neglected. This variation in the modes of determination is so perfectly bound up with the progressive advance of our knowledge in anatomy, that I think it necessary briefly to allude to its sources. The philosophy of the ancients, especially Platonism, soared above the level of nature. Aristotle was the first who, so to speak, made it descend into a sphere of utility, and rendered it applicable to the physical and moral wants of man. The spiritualism of Plato became in some measure embodied in the philosophy of Aristotle, who was thus necessarily conducted to the study of the organic forms so happily exposed in his *History of Animals*. This work, however, contained views only on the general characters of the animal kingdom; the descriptions were neither minute nor profound, nor was any necessity for such then felt. But the progress of medicine soon caused this want to be appreciated. Having discovered in disease a deviation from the normal action of organs, physicians soon became convinced that, to appreciate the disturbance of the functions which forms the essence of every disease, it is first necessary to understand the regular condition of these functions. Now the functions being merely the result of the action of the organs, their study necessarily led to that of the apparatus or organs themselves. The definitive object being the knowledge and appreciation of diseases, physiology was thus rendered subordinate to medicine, as, in its turn, anatomy was necessarily entirely subservient to physiology. The organic form was, then, what the function demanded.

But function is an absolute result; the least disturbance, the least change, leads to disease, and the latter to death; it therefore follows that the organism, subservient to the function, must be like it—immutable and absolute. Such was the conclusion to which Galen was inevitably and logically conducted in his remarkable treatise "*De usu partium*." Such also was the origin of the application of the final causes to the organisms of man and of animals. They were believed to be exactly what was requisite to attain the end for which they had been created. To suppose them different from what they are in the perfect being, enjoying the full exercise of his functions, would, according to Galen, have seemed like blasphemy against the Creator. Although subordinate, the form was, then, supposed unchangeable, and anatomy was entirely devolved to the service of physiology, as the latter was to that of medicine. Thus do we find in the works of Galen the origin of the doctrine of the immutability of organisms, and of their action at all periods of existence in organised beings, as afterwards proclaimed by the advocates of the system of pre-existences. Hence the cause of that exclamation of the founder of physiology, "*Function is the only determinator in anatomy*."

Galen had implicitly delineated the functions in man; he had defined, conformably to his views, the arrangement of the apparatus. To touch this system, was to shake his physiological edifice and to attack his hypothesis of the final causes; it was, moreover, a sure course to draw down the anathemas with which his followers overwhelmed their adversaries. Vesalius attacked it and paid with his life his audacious temerity. Vesalius dissected the human being, which Galen had not done; Galen was mistaken—such was the simple fact; Vesalius said so,—but Sylvius, in reply, asserted that it was better to believe that nature had deviated from her ordinary laws, than to place in doubt the infallibility of the physician of Pergamos. This decision solved the difficulty for the moment. But to believe is not to demonstrate in anatomy; so said Beranger, Eustachius, Fallopius, and all the followers of Vesalius in their turn. However great might have been the genius of Galen, how could he deduce with precision the form and arrangement of the human organs from the disposition and form of the organs in animals? But science now marched onwards; by the process of dissection, the various parts entering into the composition of man were separated one from another; this separation accomplished, they were studied singly and collectively, by considering them under all their aspects, and from this immense labour finally arose the descriptive anatomy of man—that wonder which had been for ages hidden from human observation. Man once reduced into his diverse elements, it became necessary to distinguish these elements one from another, to attach to them their especial names, and to divide them into groups, so as to facilitate their examination and apply to each their proper attributes. It was thus that the *distinction of organs* and of tissues was formed, from a comparison of their characters—their nomenclature, from the attribution to each of a name implying its individuality—and their classification, from combining into one group all the organs possessing general and common characters. Never was scientific movement more rapid, or marked by more numerous or positive discoveries, or by such as were of more immediate application to the wants of man; the natural sciences also, which formed a part of the study of the physician, pressed forward in the steps of human anatomy towards the determination of their several objects. *Botany, zoology, comparative anatomy, mineralogy, geology, chemistry;* these are, as it were, but the aids of human anatomy, which kept in advance of them all. Thus—to determine an *organ*, a *body*, or an *animal*, to give to it a name, to describe it in all its details, and to range it in its place or under its proper classification,—such are the characters of the descriptive sciences, the base and essence of which, so to speak, are constituted by form and its variations.

This rapid sketch suffices, then, to show, on the one hand, how descriptive anatomy detached itself from physiology—and, on the other, how, in organic determinations, the consideration of form was substituted for that of function. The method of Aristotle, essentially descriptive, neglected the function for the form; that of Galen, essentially rational, neglected the form for the function. The first of these methods carried in its train the descriptive sciences; the second led to the general sciences; the truth thus lay in their combination, and to Haller we owe the merit of first discovering this fact. He founded the determination upon form and function combined; thus, embracing in his method, the descriptive as well as the

general sciences. Without repeating what we have already said on this subject, I shall merely remark, that man, as well as nature, would be but ill-appreciated with regard to the collective characters, the harmony and the final object of his organization, if our knowledge were limited to the facts disclosed by the descriptive sciences. However indispensable may be the truths of detail composing these latter sciences, we perceive that these truths are not detached one from another; we see that they are united and bound up together by various and numerous relations; by something in common which serves them, in some measure, as a principle or point of origin. The study of these relations and principles constitutes, then, a new series of general facts, the discovery of which goes far to explain all these particular truths, and thus form a useful body of doctrine. Such is the object of the general sciences.

Here, again, anatomy has opened a route to the other natural sciences. For, as we have already seen, we find the principles of the method in Aristotle and Galen. But in general as in descriptive anatomy, they could be but of imperfect application. The cause of this is in the very nature of the general sciences. If the descriptive sciences are composed of facts of detail, the general sciences are constituted by facts of a collective nature. In the descriptive sciences, we are constantly seeking the differential characters of facts. In the general sciences, we search for their relations. In the first, we decompose nature—we isolate facts. In the second, we combine them—we connect them together by the force of analogies. The study of the analogy of organised beings forms, then, the essence of the general sciences; as that of their differential characters forms the essence of the descriptive sciences. Hence arise their differences, their subordination, the simplicity of the descriptive sciences—the complication and extent of the general sciences. I may here remark, that to ascertain the differential characters of a body, of an organ, or of an animal, we must study it solely at the period of its complete development. The descriptive sciences thus include but the history of a given period of organised beings,—as the adult age, in human anatomy; the corresponding period of animals, in comparative anatomy and zoology; and, in botany, that period of vegetables when they are arrived at the term of their increase. While, on the other hand, to appreciate the analogies of bodies, of organs, of animals, or of vegetables, we must embrace all the periods of their existence, by following all their changes and metamorphoses: we must form a complete history of the life of organised beings: and hence the extent of the general sciences. As the purpose of the descriptive sciences is merely to discover some given object, a series of organs or of bodies, their labour is in some measure entirely mechanical or material; the system is the same in all. Hence, the simplicity of the descriptive sciences. While, on the contrary, the general sciences, purposing to establish the conditions of existence in the organs of beings, to show how they become what they are, whether considered in themselves or in reference the one to the other—their labour is necessarily more elevated, more intellectual; it requires the full exercise of reflection and comparison. To the genius of observation should be joined that profound sagacity which, by the comparison of natural bodies, rises from one relation to another, until it embraces all within its grasp. Such were the minds of Aristotle, of Galen, of Harvey, Malpighi, Haller, Bichat, Meckel, Geoffroy Saint-Hilaire, Cuvier, Blainville, &c.

The descriptive sciences take bodies such as they are, without inquiring into their nature, their intimate, microscopical or molecular constitution; whilst, on the contrary, the object of the general sciences is to unfold this intimate composition of organised beings. Hence it follows, that the descriptive sciences are in themselves sufficient for their special purposes, whilst the general sciences indispensably require the aid of all the others. Undoubtedly, the details of the general sciences is formed by facts, as is that of the descriptive sciences; but these facts differ in their nature. The facts of which the descriptive sciences are composed are simple; those constituting the general sciences are removed to a second, a third, or a fourth degree; on both sides, however, the certitude is equal. But although there may be a proportionate degree of certainty in these two orders of sciences, we must still acknowledge that the causes of error are much more numerous and powerful in the general than in the descriptive sciences. These latter have merely one rock to avoid—that of saying too much. From a disposition to descend into details, we become prolix; we hide the prominent points under a heap of insignificant characters; we describe, without making ourselves understood. This is a fault into which the descriptive anatomy of man has often fallen. Hence the dryness of this study; but, from the same cause, its constant certitude. Now, the contrary is the fact with the general sciences: immediately that the mind has seized on some relation, some character common to several facts, it aims at extending it to all; it conjectures instead of translating facts. To render generalities useful to science, we must be able to contain them within limits. Thus shall we remove the abuses to which the general sciences have become so liable. Now, we may readily conceive that the abuse of details which may have crept into the descriptive sciences, will necessarily have less grievous results than the abuse of generalities in the general sciences. The progress of the former has, therefore, been regular, constant, and uniform; whilst that of the latter has been irregular and unequal: hence would the variability of the general sciences, as compared to the fixity of the descriptive sciences, have presented a sad contrast, were it not more apparent than real. But when we search its causes, we shall find that these sciences are constantly tending towards the same end: and, on attentively considering their means, we shall find that they constantly progress according to the same logical and inflexible principle—that of analogies, or organic conformities. Such is the constant principle which we find pervading these sciences, from the time of Aristotle and Galen down to the present day.

How then is it that the general sciences, invariable in their principle, have become so varied in their applications? The cause is in their very nature. If the general sciences are composed only of relations between particular facts, and consequently of general facts, it is evident that they must follow the descriptive sciences. Without the just knowledge of particular facts, the establishment of true relations is impossible. The imperfection of the general sciences has, then, at all periods, depended on the imperfection of the descriptive sciences; the one has merely been the result of the other. Thus, the imperfection of the general anatomy of Plato, of Hippocrates, and of Aristotle, was evidently owing to the few fixed notions acquired at that period upon descriptive anatomy; and, on the contrary, the progress made in the general anatomy of Galen, evidently had its source in the strong impulse which he gave to descriptive anatomy. We must also remark, that the notions of the ancients on general anatomy, being founded much more on the outer aspect of animals, than on their internal conformation, were necessarily more of a zoological than of an anatomical character. Thus, their observations on the analogies of the different animals, were founded on the teeth, the relations of the limbs, of the head, &c.; these observations were, however, correct, inasmuch as they were confined to what was placed beneath their eyes. But, on the other hand, when from the exterior they pass to the interior, we perceive at each step that they are reasoning upon what they had not accurately observed, and often upon what they had not observed at all: thus are their views frequently but vague ideas, which go completely astray in their application; abundant proof of which is found in the views which they have left upon the development of animals, as well as on the origin of parts.

OBITUARY.—Dr. Malachi Blake, at his house in Taunton.—Mr. T. W. B. Kirkby, Surgeon, on the 28th January, at Pimlico.

FOTHERGILLIAN MEDAL.—This has been awarded to Dr. Lever, of Guy's Hospital, for the best essay on organic disease of the womb

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM.

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c. &c.

(LECTURE VI., Delivered December 14, 1842.)

GENTLEMEN.—I purpose to bring before you today the subject of apoplexy. Now apoplexy is divided into two kinds:—in the first place, you may have congestion of the brain without a rupture of a blood-vessel; and in the second place, you may have it with a rupture of a blood-vessel; and you will see that throughout this lecture it will be a very important distinction with which we begin.

I must first detail to you the preliminary symptoms of apoplexy, and I will begin this subject by just adverting to what I have always considered very important, and that is,—that many subjects are not to be learned in the hospital, but they are only to be learned in private lessons, and this is one of them:—you can never learn to detect the premonitory symptoms of apoplexy in an hospital. You know that patients with such symptoms never come into an hospital, therefore, you never have an opportunity in an hospital of observing such a case. This may be said of all such diseases.

Now with regard to the premonitory symptoms: these occur in many subjects. In one set of cases you find a patient of a sanguineous temperament; he looks florid, is robust and muscular, and it is obviously a case of fulness. In another set of cases, the patient, instead of being sanguineous, is one of the most phlegmatic you can meet with. You may, perhaps, think this distinction is merely a scholastic one, but it is not so by any means. In order to prove this fact, I will detail to you a case that occurred to me but a year or two ago. A member of parliament came to me describing attacks of giddiness—attacks attended with symptoms which seemed to indicate a degree of apoplexy. He had been under treatment, and he had been repeatedly leeched and cupped, he had been leeched from the beginning, and had been cupped and leeched into a state of anemia. The symptoms had very much subsided, and he might have been anemious from the beginning. But there might have been merely a deranged state of the stomach and bowels, and the repetition of blood-letting only led to an aggravation of the symptoms, by aggravating that state of things that is commonly associated with the state of anemia. I put him under a different treatment, and I went so far as to prescribe preparations of iron for the anemia, and a frequent and moderate supply of meat, to which I added a little wine. From that moment he recovered.

This suggests an important distinction with regard to the premonitory symptoms of apoplexy. Sometimes they are altogether those of a flow of blood to the head, or a state of plethora, and on the other hand, there is the opposite state, namely anemia. This state does not show that there is not congestion within the head, as is proved: for if an animal be bled excessively, that animal becomes comatose, as if all the muscles were reduced extremely by the loss of blood. In that state, which is a state of reaction, many persons become affected with a state of things approaching to apoplexy,—that is to say, a little disposition to coma, and coma goes on, and then you have apoplexy.

Now with regard to the symptoms; they usually relate to the head. Vertigo, flashes of light, and noises in the ear, and a momentary loss of memory; this is the most diagnostic mark of all. The most diagnostic sign of an attack of apoplexy is a momentary loss of consciousness. In several instances in which these attacks come on, you find a momentary loss of memory, so that the patient has forgotten those things he used to know; and there is a momentary loss of consciousness, so that the patient has forgotten where he was, and what he was about, and so on. I think this more important than headache, and more important than vertigo, though that is very important. However,

all affections of the cerebral functions may be considered as relating to apoplexy, unless you can at all trace them to a disordered state of the stomach and bowels, or something of that kind. An attack of apoplexy leads you to suspect such things to take place.

Another diagnostic mark is very important. How is it in a real attack of apoplexy, a patient, generally speaking, is better from having the head very much raised? In general, when a state of inanition takes place, that must be the case. A relative of mine, frequently on coming down stairs was so giddy as to be obliged to take hold of a chair or sofa. This state of things came on generally in the morning, and it would lead you to the idea that there was plethora, so much so, as to lead to a state of inanition of the whole system. Suppose you are called to a patient with some of these symptoms. Look to the countenance, and see whether the features are sanguineous or flushed; inquire into the habits of the patient, and consider the constitution of the frame, and so on, and see whether the patient is apoplectic. Now suppose you come to the conclusion that there is really an attack of apoplexy; your only safe-guard in such a case is this:—throw the patient into a state of exhaustion by placing him in a chair, upright, with his face looking towards the ceiling, and let blood flow. This important fact was impressed upon me by an individual case, which I will now relate. A gentleman some years ago, a most active person for his days, fond of sporting and hunting, and who seemed altogether to be quite a *bon vivant* when young, complained of symptoms which seemed to be those of apoplexy. He was bled until an incipient state of syncope was produced. I observed that the patient lost ninety ounces of blood, and did not faint at all, and I have to add to this remark what I have added on former occasions, that he never suffered from the loss of blood. Remember you have two things, one is merely incipient syncope, and the other, the remote effects of the loss of blood. He did not suffer from the remote effects of the loss of blood, though he lost ninety ounces. What do I mean to shew by relating such a case as this? Why, simply to shew that this is a case of all others in which the patient bears the loss of blood best. I do not bring this as an example; but if you follow the measures adopted in this case, you must place the patient in an upright position, and bleed until you have produced some impression on the whole system. I do not recommend you to take ninety ounces of blood, for I hardly think the human frame can spare so much blood. However, this patient did, and he escaped every symptom of the remote effects of the loss of blood. At any rate, before adopting this measure, you should acquire a vast deal of information respecting the individual case. In the first place, you learn whether the brain is affected; then, if you find that the patient is robust, and bears the loss of blood, you may generally come to the conclusion, that this is a state of things that requires it, unless you find by your diagnosis that the symptoms will be followed by a more serious attack.

I now pass on to attacks of apoplexy. Attacks of apoplexy must be divided into two, invariably; for practice sake and for the sake of the prognosis, and everything interesting in such a case. The two states into which apoplexy has been divided are, the case of mere fulness or congestion, and the rupture of a blood-vessel. These two cases, you see, are different. The one is a case in which it is important to use active remedies, and the patient is almost sure to recover; in the other case, in spite of all the remedies you may employ, the patient may not recover. I do not say that a patient does not recover from a state of rupture, but he is never in the same state that he was before. Now in a violent attack—I am going now to state what I have observed in an actual attack of apoplexy—a case which is not one of rupture but one of mere fulness—the patient in such a case, is taken with apoplexy like a thunder stroke; just like a thunderbolt strikes a man, and he falls down, and is perfectly unconscious. No impression can be made on his mind, or any of his senses. You see him ...

nance, and laborious breathing. If the symptoms are confined to the cerebral system, they are infinitely less important; but there is danger the moment you find the symptoms begin to involve the symptoms attached to the spinal marrow. Suppose a man in a state of deep apoplexy, so that you can hardly produce any sensibility by pinching him, or shouting in his ear; still, if he breathes well and swallows well, and there are no spasmodic symptoms, that man is sure to recover. But the danger comes on when there is choking in swallowing, and the spasmodic affection is just in proportion to the violence of the symptoms.

Gentlemen, the danger is in proportion to the violence of the symptoms, and in proportion to their duration. For if you bleed a patient, and he is rendered better, and the symptoms are mitigated, I need not tell you that your hopes revive; if you leave him, and he is no better, I need hardly tell you that your hopes are cast down. Not only is the violence of the symptoms important, but also the duration. These symptoms, when continued, in spite of active remedies lead to a terrific prognosis, which is worse as these symptoms are gradually increased. If you have a violent case, and it subsides a little on letting blood, then your patient will most probably recover; and if you have a violent case, in which the symptoms do not subside at all, then your patient will die. If you have a moderate case at first, and the symptoms greatly increase, that is always fatal.

I may mention a case now while I think of it. A patient had the symptoms of apoplexy, and he could not swallow. I asked the question, "is the swallowing any better?" I was told "no," and I said "your patient will surely die," and he did die. You see what I mean then; that if the symptoms are not mitigated, the patient is not in a state of hope; even if they are not violent, and the symptoms augment, there is danger still. There is another case I may mention; it is that where a patient has had a slight attack, and in the midst of the treatment he comes to have another, and perhaps a third. That is almost sure to prove a fatal case.

So far, then, with regard to the symptoms, and with regard to the prognosis. In this cure, the remedy is, as I said before, blood-letting; and all I can say is, that you must adopt the measure I recommended to you, that is the common mode. You must place the patient perfectly upright, and bleed until some impression is produced upon the system. You must continue this until the cheeks become a little less livid, and until you have induced an alteration in the state of breathing, and you begin to see only a few dew drops are on the forehead. I mention these symptoms because you are to seize the very first of them, and then you will not have to let blood any further. Blood-letting is the remedy, and it has the effect of leading you not only to determine the diagnosis in the case, but any one can tell whether the case is one of apoplexy or not. The object of the diagnosis is to ascertain whether it be a state of apoplexy, and then to lead you on to the prognosis.

Now I want to pass on to a case of rupture of the vessels which is a totally different affair. If then, there is rupture, and there are violent symptoms, and the patient is taken with apoplexy, do you know what is the diagnostic of rupture? How do you determine it? The diagnostic mark is congestion and paralysis. If you pinch the foot and hand, on one side or the other, and find the foot withdrawn, and the patient is in a state of utter insensibility, which may occur, you may hope there is only congestion. I give this to find the diagnostic mark, whether there is rupture or not. I do not know whether I am pressing too strongly on this subject, but practically, with, perhaps, some exceptions, this is true; however violent the apoplexy may be, if you find the limbs retract on being pinched or pricked, or touched, you may merely hope that it is apoplexy without rupture. But if you find that instead of this being the case, there is distinctly on one side paralysis, you may be perfectly certain that, violent as the form of the disease is, the case is hemiplegia, and the patient can hardly be said to have any chance of recovery. But suppose you find there is hemiplegia; ...

be this. You have got hemiplegia:—look to the degree and violence of the apoplectic symptoms, —the cerebral symptoms:—there is danger or there is hope, according to the violence of the symptoms. If there is no violence, if the symptoms be slight, and there be hemiplegia, it is always a very serious case. The patient may recover, for a time, but he cannot live. Then you may have violent hemiplegia in a state of apoplexy, or you may have it without any apoplexy at all. A patient, with a brother of mine, was attacked with hemiplegia. All at once he fell down as if shot; he could not move one side, yet his senses were entire. It was quite obvious that even without apoplexy he had a violent attack of hemiplegia. With this hemiplegia there was a difficulty of swallowing, and when these two things go together, you may be sure that something has occurred, and that nature cannot recover from such a state as that. I have a preparation here, that of a cyst extending into the ventricle, and I need not tell you, that when a cyst extends into the ventricle, recovery is next to impossible. If there is violent hemiplegia with a cyst extending into the ventricle, respiration can scarcely take place. The attack is marked by complete hemiplegia, and hope scarcely exists in such a case as that; when the hemiplegia is complete, the prognosis is exceedingly low indeed, and exceedingly fatal.

Now I want to bring a few remarks before you, relating to the degree in which you are to hope or fear the recovery of a patient. Now suppose there is hemiplegia; if hemiplegia be confined to the arm and leg, even if it is very severe, still there may be a degree of hope, because a cyst in the hemisphere of the brain, not communicating with the ventricle, may produce this state of hemiplegia. If there is hemiplegia in the arm or leg, and with this, paralytic affection of some other part, I need hardly tell you, the disease bears a more aggravated character. Now what other parts are to be affected to produce this? In the first place, the eyelid is affected. Tell a patient (I am supposing the patient is not in a state of deep apoplexy) to close his eyes, and he does so, but you find that one is much better closed than the other. If the left side is paralysed, and the patient is told to close that eye, the corner of the mouth is raised, and the other side of the mouth falls a little. Another remarkable diagnostic is that the tongue is drawn to the paralytic side. The angle of the mouth on the paralytic side is drawn upwards, and on the other side it is allowed to fall down.

I may here make an interesting remark, that in no case of hemiplegia I have ever seen, have I ever seen the eyelid not closed. But it is a very different thing when you have paralysis of one side of the face from disease of the *portio dura*, or seventh pair of nerves; for then the eye does not close at all. But here you have complete hemiplegia of the voluntary part of the nerve, the eyelid closes with every part of the opposite side, though not as it were, on the principle of association, as it has been made out recently by Professor Muller.

I will first now explain to you, that you may be aware of the fact, why the tongue is drawn to the paralytic side. You have seen the *sterno-cleido mastoideus* muscle, and you are aware of the division of the fibres of this muscle. If one side of the tongue is paralysed, the tongue will be drawn to that very side on account of the direction of the fibres. Now suppose you have paralysis, it is quite plain that here the head will be drawn a little to the paralysed side, because the *sterno-cleido mastoideus* has oblique fibres passing from a centre to a point more distant from the others. When the muscle contracts, the direction of the head is to the paralytic side. This may very often form the subject of question in an examination, and is very important.

Well then, I now go on to another set of functions, and those local symptoms which relate to the true spinal system. The state of breathing:—in a state of deep apoplexy the breathing very often becomes stertorous. If the state of breathing, under the influence of remedies, becomes mitigated, the patient will probably recover. Suppose that after having bled a patient to the utmost that you dare,—and that you ought to bleed a pa-

tient,—the symptoms are not relieved, the patient will almost surely die. So with regard to another nervous symptom, which I always regard with terror, namely, the difficulty of swallowing. There never is difficulty of swallowing with apoplexy, but it is a fatal sign. It is a sign of great danger, and if it continues in spite of remedies, the patient is almost sure to die; but if it becomes mitigated, he is almost sure to recover. If this state of things comes on after the first attack, then all I have to say is, that it is a worse sign, according to the rule given at the beginning of this lecture. Here, then, the true spinal system is involved. How is the true spinal system involved? Simply because of counter pressure. Violent congestion of the brain, and therefore counter pressure of every part within the skull, and at the base of the skull. There exists a part of the true spinal system at the top of the medulla oblongata. If that be pressed upon, you will have difficulty of breathing, and there is difficulty of swallowing for the same reason. If then blood-letting does not relieve the patient, and this state of things continues, it invariably leads to fatal results. You may be sure it is a state of congestion.

Now, in congestion, generally speaking, the pulse is strong and moderately slow; on the other hand, in laceration, or the rupture of a blood-vessel, or the laceration of the substance of the brain, you may remark that the countenance becomes pallid, the pulse feeble, and at the same time there is some difficulty with regard to the capability of bearing the loss of blood. I have told you already that no disease bears the loss of blood equal to the state of congestion in the head, either before or after an attack of apoplexy, but especially before. In an attack of apoplexy, a patient bears the loss of blood extremely well.

But then there is laceration. This occurs when a shock is impressed on the whole nervous system on the whole system precisely like what we can observe by experiment. Take an animal of [illegible] and crush the brain, and you see the heart loses its power. By and by the heart recovers from the shock, and the circulation goes on. Just the same thing occurs in the human subject in a violent accident, or a violent convulsion, or a violent attack of apoplexy. Therefore, in that case, you have all the symptoms that I have detailed to you, to which I add the influence of the shock. Now I need hardly tell you, that under the influence of a shock, the patient cannot bear to lose much blood. Now I am perfectly certain that many a life—I do not say that many a death on the other hand has been caused—but many a life has been shortened by taking blood under the combined influence of an attack of apoplexy and the paralytic state, and the shock produced on the brain. Therefore in a case of congestion, blood-letting is attended with some danger, and so in the case of apoplexy, combined with laceration, you may bleed, but with extreme caution. If you do bleed, the patient [illegible] suddenly sink altogether; if that is the case, he does not bear the loss of blood well, and if the symptoms are not alleviated, perhaps the patient will never recover, but he gradually sinks and dies. I shall never forget a case that occurred in my early practice. I bled a patient [illegible], and to my [illegible] and astonishment, that patient, instead of being relieved, sank from that moment. I am persuaded that [illegible] blood-letting [illegible] to be deprecated, because there is the danger of precipitating [illegible] into the [illegible].

I have hitherto been talking on the subject [illegible] very [illegible] [illegible] [illegible] the rupture be confined to one part of the brain and is not extensive [illegible] that hemisphere, the patient [illegible] probably live, though he does not [illegible] perfectly [illegible]. Now it has been [illegible] by [illegible] French physiologists—I believe I may almost say established—that there is a certain effect produced, be the clot in this or that portion of the hemisphere—whether anterior or posterior. I need not tell you that a clot in one hemisphere paralyses the opposite side. There is always this effect:—if you have a complete cyst running along one hemisphere, you will have complete hemiplegia of the other side of the body. Now suppose the cyst is not so extensive and does not extend along the hemisphere, but is confined to the anterior lobe of the brain; I give you here a useful mnemonick, and if you comprehend it once well, you will never forget the effects,—there is an affection both of the right and the left side. There is a double cross effect, because when the anterior lobe is affected, the posterior lobe is also affected, and when the anterior lobe of the brain is affected, it is the anterior extremity that is affected, therefore there is a double cross effect from side to side, from before backwards, or from behind forwards.

Well then, the next question is whether any other part is affected. I must mention one matter. When the clot has been confined to the middle lobe of the cerebellum, it has been said that there is a peculiar effect upon the genital organs, so that Mr. S., on one occasion, passing round the wards of an hospital with me, accompanied with some friend, said, "what would you say, if I were to say that it is not the cerebrum that is affected, but the cerebellum that is affected?" I replied, "I should think you very bold;" and he said, "I am very bold then, and I say that the patient will most surely die." On the post-mortem examination, it appeared that it was not the cerebrum but the cerebellum. He asked for the diagnosis, and he observed on examination, that the abdomen was in a state of sexual excitement. It had been thought, according to Gall, that the sexual organs are more or less under the influence of the cerebellum, and this showed at once that the cerebellum was affected in this case. I do not give that as a proved fact, but certainly the inference, (not as to the diagnosis) that the cerebrum has not anything to do with it, is true. A case occurred to a friend of mine—a case of deep apoplexy. There was nothing particular in that case, and the usual remedies were applied, but he said the patient will surely die. He did so, and on examination, there was found a clot in the lobe of the cerebellum. The question came to be whether there had been any excitation or sexual efforts more than usual. Now it so happened, that the patient had been hitherto devoid of all sexual desires and power, and yet on the night previous to the attack, he for the first time manifested such power. I came to this conclusion, and you will see I was perfectly right, that the cerebellum was affected. But though this attack led to some manifestation of sexual affection in that patient, I am very far from coming to the conclusion that therefore the cerebellum is the centre of sexual affections. There are facts which lead to an opposite idea. In the first place, the lobe of the cerebellum is just over the medulla oblongata, and being in such contiguity, it may affect it by counter pressure, or in any other way. You cannot say, having two organs affected, which is the source of the function. You have these two involved, and therefore you must not conclude that it is the cerebellum, or the medulla oblongata that is affected without you know something more.

Now there are certain other effects. It has been proved, that where there is an injury of the medulla oblongata, there is a manifestation of the sexual organs, proving invariably that the medulla oblongata is connected with the sexual organs; and on the other hand, it has been proved, that where there has been an absence of cerebellum, there has been a manifestation of sexual power, and, in fact, the general conclusion is, that the cerebellum has nothing to do with the manifestation of sexual desire or power, but, in fact, that the function is one of the medulla oblongata. I dismiss this subject because it is one more of curiosity than of practical importance.

But there is another point I must bring before you, because this point is really important. Sometimes you find there is a case of apoplexy which terminates suddenly—in a moment. Formerly you heard of sudden death being traced to disease of the brain, disease of the lungs, or of the heart. But you find in all works on medical jurisprudence at the present day, that disease confined to the brain never leads to sudden death, —that is to say, disease confined to the brain itself. You may remove the brain without that operation leading to sudden death. An animal so mutilated continues to breathe, and swallows, and performs all the functions of the true spinal and ganglionic system. If then, you have a case of apoplexy in which there has been instant and sudden death, you may be sure that something else has happened. Now what are the symptoms? Such a violent congestion of the whole brain as to compress the medulla oblongata, and to cause its functions to cease. You may have a violent laceration of the whole brain, or of one hemisphere passing from the anterior to the posterior lobe, and passing into both ventricles, and that may produce sudden death in two ways. First of all, the violence of the shock impairs the action of the heart, and then the compression of the medulla oblongata annihilates the actions of respiration. A case occurs to me at this moment, where the patient died in a moment; and the question came to be, what was the disease? I should tell you, that previously she had had some paralytic affection, and on examination, a clot was found just between the median lobe of the cerebellum and the medulla oblongata. This, of course, pressed on the medulla oblongata, and produced sudden death.

Now remember the remarks I made. If you have such a disease, however severe, if it is confined to the brain, it will not produce sudden death. But if you have such a disease pressing on the medulla oblongata, or if there is a clot of blood situated so as to compress the medulla oblongata, respiration will cease, and the action of the heart will cease altogether. Sudden death may occur again in disease of the cranium, or disease of the head itself.

You see, then, so far as I have gone into the subject, the important conclusion to which I come, that disease of the brain will not produce sudden death, unless that disease of the brain be accompanied with such violence as to cause counter pressure on the medulla oblongata, or to produce such a violent rupture, as to cause the blood to escape not only into the cavity, but into the ventricles, or to form a clot pressing on the medulla oblongata.

I will now call your attention to what Cruveilhier has noted on this subject:—He says, that you may have apoplexy from an injury of the tissues, and not from rupture so that there is a clot of blood poured out, but there may be an enlargement of the capillaries—the blood thickening in the vessels. In the other case, you see the blood has actually escaped out of its channels, and found a cavity for itself. One case is capillary apoplexy, and the other is altogether apoplexy from rupture.

There is one other point I want to shew you, because it is important. I have told you that under various circumstances you may have apoplexy or hemiplegia. Now I need not tell you more than recall your attention to the anatomy of the base of the brain, in order to lead you fully to understand the variety of circumstances that take place in apoplexy, which you can hardly understand, without reference to the anatomy of the base of the brain. In case of compression of the medulla oblongata, you have cessation of the respiratory functions, and therefore speedy death. Suppose there is such a state of things in apoplexy or rupture, that you have a pressure on any of the nerves at the base of the brain, I need hardly tell you in that case you will have blindness and deafness; and in this manner I believe for the most part, you may explain those peculiar phenomena that sometimes occur in this case. Another important thing to bring before you is this. There is another kind of apoplexy in which the blood-vessels at the base of the brain are affected. A case is given at large in the *Annale de Medicale Societe, &c.* Now I want you to observe that in this case there is not anything very peculiar and my very excellent friend, Dr. Graves, of Dublin, has furnished a case having precisely similar effects.

I have now given you my views on the subject of apoplexy and paralysis, and I must conclude with a very few words respecting the mode of treat-

ing such an attack. In the first place, in an attack of apoplexy or congestion, I believe the remedy should be blood-letting. The patient must be bled first upright, and generally speaking, the blood should be allowed to flow until some slight impression is made on the countenance, or the breathing, or the pulse, or the skin. If you have hemiplegia, then, I say, beware of blood-letting: use caution, be watchful of the cause of the disease, and then I have nothing more to say on the subject. You remember the case I referred to, which occurred early in my private practice. I have held blood-letting since in *terrorem*. What is to done further? After blood-letting and cupping, we should resort to what will not harm the patient, for we dare not do anything further to the vascular system—I mean purgation. I recommend to you now croton oil. It was recommended by Dr. Abercrombie. There are other remedies of the same kind. It has this peculiar property, that it promotes the circulation of fluids by slow degrees. After this, all you have to do is to watch the patient, and to adopt such measures as the case may require. For instance, leeching or cupping may be adopted from time to time; the patient may be raised up in bed and counter irritation applied to the posterior part of the head. The patient may then be placed under the influence of mercurial powders, and when I say that, I want you to observe, that if a patient does not recover soon, he scarcely ever does recover. If the attack comes on in the early part of life, it may be felt under many circumstances. It may come on whenever a patient is indisposed, or in any way attacked with fever, then the old complaint comes on. I have a patient in my eye when I tell you, that he had an attack at the age of 25, from which he seemed perfectly to have recovered, but he felt it again at the age of 40, when fever came on; and whenever he had fever, or was in any indisposed, he always felt a weakness of the paralytic side. When he got into years he walked lame. Nothing, in my opinion, converts young men into old men so completely as an attack of hemiplegia.

PRIVATE COURSE OF OPERATIVE SURGERY.

By J. NOTTINGHAM, Esq., Member of the Royal College of Surgeons of London.

LECTURE VII.

Articular Amputations of the Upper Extremity.

Gentlemen,—When all efforts to preserve a limb or an important part of it, are evidently about to fail, when the general health of the patient is suffering from the progress of local disease, or life is endangered by the temporary condition of a part which has been the subject of accidental injury, we in many cases are obliged to have recourse to operations which mutilate the body, for the purpose of prolonging the life. It is undoubtedly better to live with three members than to die with four—hence the propriety of removing one (or even more) where its amputation is essential to existence. Leaving, therefore, the elementary operations with which we have been hitherto engaged, we proceed to give an outline of the operative surgery of the different amputations of the extremities, reserving for an after lecture some general remarks on these operations, and on the circumstances in which they ought, or ought not, to be performed.

We will first speak of the operations at the joints, where contiguous bones are separated, afterwards of the more commonly performed amputations, where the bones are divided with the saw.

Amputation of the Fingers.

In these cases the stump of bone may be covered by one flap taken from the dorsal, or from the opposite surface, or by two smaller flaps taken equally from both; or instead of looking to the anterior and posterior surfaces for soft parts to cover the denuded bone, a couple of folds of integument may be obtained from the sides of the articulation, which may be cut so as to approximate evenly in the middle line; the practice of making a circular incision a little below the joint, and then a short and straight incision upwards on each side, so as to form two flaps, is troublesome and but seldom resorted to.

When two flaps are made in such small amputations the process is a tedious one, and occupies more time than we should like, beside which when the parts are subsequently united, the line of cicatrix crossing the middle of the stump either from side to side, or from the dorsal to the palmar surface is much exposed to accidental injury and contusion from various causes, which in some cases for weeks or even months after the healing, might be the source of considerable suffering; hence the adoption of methods of operating such as those which have been recommended by Lisfranc, passing the knife at once into the joint, dividing the lateral ligaments, thus opening largely the articulation, and lastly cutting a flap from the dorsal or palmar surface, or from that aspect of the finger which is opposite to the surface where the knife first entered. Suppose the middle finger were operated on, in either of its two middle joints, and the flap made from the palmar surface, the skin on the dorsum of the finger had better not be divided immediately over the articulation, but a line or two below it, this incision being a little convex downwards; cut in this way it would hang neatly over the dorsal border of the extremity of the phalanx to be left behind, merely just turning over its edge to meet the flap—brought towards it from the palmar aspect—the latter affording the main covering to the stump.

After this first incision is completed, the knife readily enters at the back of the joint, especially if the portion of finger we are removing be a little flexed on that which is to remain, (the finger operated on having hitherto been held in the extended position, while the remaining fingers of the same hand are bent toward the palm and rest on some firm support.)

The next step is the division of the lateral ligaments, which might perhaps be regarded as *one* of, if not *the* most important part of the operation; this should be done rather with the point than with the middle of the bistoury, so as to avoid cross-cutting that part of the integument from which the main flap is to be formed.

The last step of the operation is commenced by gliding the bistoury, which has already traversed the articulation, along the other side of the phalanx to be removed, keeping it close to the bone; it is thus carried far enough to obtain a flap which will cover the exposed extremity of the stump, and the operation is completed by bringing it outwards.

In terminating this operation, it is better not to cut out too suddenly, and without any previous and gentle inclination of the knife, for if we do so, a stunted flap too thick at the edge will be formed, which it is more difficult to manage or to join with the opposite portion of integument than where the knife has been brought out less abruptly.

It is easy to reverse this operation by commencing it on the palmar surface, and taking the flap from the dorsal. Operations on the corresponding joints of the other fingers and of the thumb may be performed in a similar manner.

Metacarpo-Phalangial Amputations.

In amputating the fingers at the joints away from the meta-carpus, the flaps to cover the stump are obtained from the dorsal or palmar aspect of the finger, as may suit the choice of the surgeon or the peculiar circumstances of the case, but in removing the entire finger at the joint with the metacarpal bone, the flaps are mostly obtained from the sides of the latter at its extremity, in other words from the web of the fingers.

Supposing the middle finger to be removed in this operation, the patient puts forth his hand, which is taken and held firmly by an assistant, who draws the little and ring finger on the one side, and the thumb and fore-finger on the other as widely apart as possible, thus affording ample space for the surgeon to attack the middle finger, all the set being extended; the finger has now to be removed at the joint, sparing the surrounding soft parts as much as we can; the bistoury is placed on the prominence of the knuckle, and thence carried through the web of the fingers to the palm, the incision terminating in that part where the cuticle becomes indurated and thickened in labouring people, or just above the upper of the two folds seen on the palmar aspect of the root of the middle finger.

The joint is now to be opened, it will be found behind the most prominent part of the root of the phalanx, and to this the surgeon may, as it were, feel his way, the bistoury being held perpendicular to the metacarpus; and entering the joint may, in some cases, be a little facilitated by making traction on the finger to be removed, while the assistant fixes and holds firmly the hand for in this manner the ligaments being put on the stretch, the line of separation between the bones is more easily discovered the ligaments divided, and the articulation traversed, the surgeon turns the edge of the bistoury towards the tip of the finger, and keeping it close to the bone on the other side of the root of the phalanx, takes care not to bring the instrument out too soon, but cut a flap corresponding to that made by the first incision.

In passing through the joint it is well to bear in mind the cupped form of the end of the phalanx, and the rounded extremity of the metacarpal bone articulated with it, and to guide the knife accordingly.

The neighbouring fingers being bandaged together with a little broad tape, the bleeding is in most cases soon arrested, especially if the operation be performed after accidental injury to the part; in those cases, however, where the finger has long suffered from the progress of chronic disease, the enlarged arteries occasionally require ligature: union by the first intention will generally take place if the flaps be kept in neat apposition.

When this amputation is performed by what is called the oval method, the incision is made completely around the root of the finger, commencing and terminating at the same point on the knuckle; the integument is then a little turned up and the disarticulation effected.

In another method called the circular, the dorsal aspect of the incision does not mount so high, for it is carried round the root of the finger on a level with the upper line of fold in the palmar integument; the joint being farther removed from the first incision, the disarticulation by this method is more difficult.

Of the three operations here noticed, the first with two flaps; the second by one oval incision, the third by one circular incision; the former, or the flap operation, is most frequently performed in this country. Some have recommended the oval method as interfering less with the integument of the palm, and leaving a cicatrix which does not encroach so much upon it; the circular operation not so easily performed as the others, and possessing no advantage over them, has had but very few advocates.

When a corresponding operation is performed on the fore-finger, or on the little finger, the radial flap in the former, and the ulnar in the latter instance, should be cut a little longer than when either the middle or ring finger is operated on.

So much for the removal of the fingers separately, sometimes, however, the four require to be taken away all together. Suppose we operate on the right hand; it is placed in a state of pronation, and the surgeon, as if for converting the four fingers into a one member to be removed, grasps them firmly together in his left hand; a narrow and strong bistoury is required, which is carried across the roots of the four fingers, cutting from the little finger to the index, (right side,) thus making a dorsal flap which is slightly convex downwards, one extremity of it corresponding to the ulnar side of the metacarpal articulation of the little finger, the other corresponding to the radial side of the metacarpal articulation of the fore-finger; but it is better that the incision should commence and terminate a little below these points, that sufficient of the soft parts may be left to cover the denuded bones.

The metacarpus being elevated and supported by an assistant, the fingers are now forcibly flexed towards the palm, the dorsal ligaments, and extensor tendons thus put on the stretch, being firmly touched with the point of the knife, are cut across, and the joints laid open one by one, the

lateral ligaments being divided and the ends of the bones set free, the surgeon proceeds to form the palmar flap by gliding the knife under the metacarpal phalanges, and at the same time bringing it from the little finger towards the index, each finger being taken by the assistant as the knife separates it from the rest; in completing the flap in the palm, the surgeon should take care that he obtain a sufficient piece from the root of each finger, for this joined with the integument from the opposite or dorsal aspect, will suffice adequately to protect the four-fold metacarpal stump; for this precaution is required, although in this operation the chief flap is taken from the dorsal aspect of the root of the fingers.

When the four fingers are removed together by what is called the circular method, the knife is passed over the roots of the fingers on both the dorsal and palmar aspects, the incisions corresponding to the folds on the palmar surface; the incision for each finger is turned a little on its side, so that the dorsal as well as palmar incision being semicircular, the course of the knife as described, suffices for completely dividing the integument, the joints are next opened and the fingers removed. By this plan a somewhat greater portion of soft parts is preserved to cover the metacarpal stumps; the circular method may also be employed when two or three only of the fingers have to be removed.

We proceed now to notice those articular amputations of parts of the hand which are performed between the carpus and the metacarpus, or the

Carpo-metacarpean Amputations.

We will begin with the borders of the hand, speaking first of the amputation of the thumb with its metacarpal bone, (not discussing at present whether this be a metacarpal bone or a phalanx,) afterwards proceeding to the amputation of the little finger with its metacarpal bone; we will next describe the mode of operating in removal of the index, the middle, and ring finger, with the corresponding metacarpal bones, and lastly, the operation for removal of all the four fingers with the metacarpal supports which belong to them.

Amputation of the Thumb.

The patient puts forth his hand, the assistant seizes the fingers, the surgeon seizes and forcibly extends the thumb, thus stretching the web between it and the fore finger; the edge of the bistoury is now applied to this web, and the instrument being kept close to the bone of the thumb, is carried onward to its articulation with the carpus, where it is stopped by the os trapezium, its edge is now directed towards the radial border of the thumb and the articulation traversed; the edge of the bistoury is next turned towards the nail of the thumb, and a flap is cut from the dorsum, the knife being brought out a little below the metacarpo-phalangeal joint; in cutting this flap the surgeon raises the integument with the fore-finger and thumb of his left hand, thus obtaining a full sized flap, or one sufficiently large to meet the opposite section.

The hitting of the joint and opening it may be facilitated by a method alluded to before, the surgeon making traction on the thumb while the assistant holds the hand firmly, thus separating a little the articulated surfaces of the bones, and bearing the thumb also away from the rest of the hand, which will put the inner ligaments somewhat on the stretch, and thus help the bistoury into the joint; the bistoury for this purpose should be strong and narrow, somewhat like a lengthened penknife, but very stiff.

It is more or less difficult to form the flap from the dorsum of the thumb in this operation, as in that region the soft parts are not abundant, in consequence of which it is occasionally recommended to complete the division of the soft parts before the disarticulation is attempted; the flap may, in this way, be formed precisely in accordance with the wish of the surgeon, and thus there will be a better prospect of neat cicatrization for the future; the dorsal flap being first cut, the knife next thrust down inside the thumb as far as the trapezium; and lastly, the articulation traversed and the part removed.

Amputation of the Little Finger with the Metacarpal Bone.

A bistoury similar to that used in the last operation should be employed; the surgeon directs his attention to the ulnar margin of the palm of the hand, between the fold of the wrist and the fold at the root of the little finger, which is, generally speaking, slightly convex inwards, or in the ulnar direction and more or less plump, with plenty of soft parts, muscle, and skin, whence to form a flap; an assistant holding the fore-arm and steadying the extremities of the fingers, the surgeon satisfies himself of the position of the hook-like process of the unciform bone at the ulnar corner of the palm of the hand, with which the metacarpal bone to be removed is connected; or to proceed with the description in language somewhat plainer, the operator seizes the fleshy border of the palm of the hand, at a point corresponding to the upper extremity of the metacarpal bone of the little finger, and squeezes as much of the soft parts as he can between the fore-finger and thumb of his left hand, and having got this firm hold of the base of his flap, the bistoury is stabbed through it, close to the root of the metacarpal bone, taking care to be as high as the joint; the instrument is carried downwards, keeping close to the bone to a point a little below the articulation with the phalanx, where it is brought out, the flap for covering the wound being now formed.

If the precaution here recommended has been sufficiently attended to, so that the flap now cut is of full size, there will be no difficulty in passing the knife through the interosseous space, close upon the radial side of the root of the metacarpal bone to be removed; the instrument thus passed through, the surgeon with the fore-finger and thumb of his left hand presses the soft parts whence the flap already made has been cut in the direction of the radius, while the knife is carried downwards to make its exit at the space between the little and the ring fingers, and thus the inner border of the hand, or the little finger with its metacarpal bone, is set at liberty, saving at the joint where it is tied to the unciform and to the next metacarpal bones, and this connexion is immediately overcome, first by thrusting the knife a little forcibly between the roots of the two metacarpal bones then bending forcibly backwards, (or in the direction of extension,) the metacarpal to be removed, thus putting the ligament at the inner aspect of the joint a little on the stretch, when a touch of the knife will open the articulation, by crossing which the part is removed.

It might tend to preserve more the natural form of the palm, its roundness at the inner border, and its breadth, if we could disarticulate the metacarpal bone, and take it out by a single incision on the dorsal aspect, the knife having also been turned round the root of the finger; this however is a more difficult operation than the former, but is nevertheless frequently preferred to it.

An incision is made corresponding to the course of the extensor tendon on the dorsum of the bone, and a ring incision is appended to it round the root of the finger, the sides of this wound are drawn apart at its carpal extremity; the surgeon gets his narrow knife inside the joint and turns its edge to the internal ligament which he divides; at the back the articulation is easily opened, and as in the former operation, the roots of the two metacarpals may be separated by pressing the point of the instrument between them; the little finger, with its partly loosened metacarpal bone, should now be bent towards the palm, by which the upper extremity of its metacarpal bone will be elevated, and the remaining ligamentous connexion put on the stretch; by another touch of the knife, the root of the bone will be liberated—the operation may be completed by passing the knife under the bone upon which it is closely kept, the soft parts all the while being held well apart, and carrying it onwards, to leave the part through the palmar half of the ring incision around the root of the finger, the attachments of the soft parts at the side of the metacarpal bone having previously been divided. In these operations, the extensor tendon should be pressed towards the thumb, and not divided by the longitudinal incision.

Bleeding is sometimes troublesome after these operations, and the arteries retracted into the dense tissue of the palm cannot always be secured by ligature, it is well therefore to allow the part to be exposed for some little time after the operation; or should bleeding afterwards occur, to plug the wound with lint, and make pressure by a bandage, which may remain for some hours, as recommended by Mr. Liston.

An operation, more or less resembling the last of the two described as applicable in the removal of the little finger with its metacarpal bone, has been proposed by Langenbeck in cases demanding the

Carpo-Metacarpal Amputation of the Index, Middle, or Ring-Finger.

An incision made along the dorsum of the metacarpal bone is turned round the root of either of the above-named fingers; the soft parts are separated at the sides of the metacarpal bone with the point of the knife, and the sides of the wound at its carpal extremity, being drawn apart, the dorsal ligaments are cut, and the knife passed through those on the lateral aspects of the bone to be removed; in this way the point of the knife may be got towards the palmar connections of the root of the metacarpal bone, which is the subject of amputation;—these being divided, its upper or carpal extremity must be forcibly elevated—the knife passed beneath it, and then carried onwards to make its way out by the ring incision at the root of the finger—thus completing the operation.

Operations of this kind are seldom required, and it has been remarked by Mr. Liston, that they are more frequently talked of than executed on the human body. And here we might observe, that the directions for removal of parts, as generally given, are evidently adapted to supposed operations, performed on the same parts in the healthy state, but that the effects of disease are often such as to oblige the surgeon to modify the proceedings, so as to suit the operation to the peculiarities of his individual case.

Having shortly noticed the carpal amputations of the thumb, of the little finger, and of the intervening fingers, we proceed to describe the

Carpo-Metacarpal Amputation of the Four Fingers.

Here a small flap is taken from the dorsal, but the principal covering from the palmar surface; but at the commencement of the operation, the knife is carried between the metacarpal bones of the thumb and forefinger, so as to separate the former from the greater portion of the hand which is about to be removed.

The roots, or carpal extremities of the metacarpal bones of the fore-finger, and little finger, are, in the first place, to be found, and their position and projections are such as to render their discovery tolerably easy: the former will be found more readily at the back—the latter at the ulnar border of the hand. The hand is placed in a state of pronation,—an assistant holds it firmly, extending, at the same time, the thumb, and thus opening the space between it and the metacarpal bone of the forefinger, where the work of the knife begins. We suppose the operation to be performed on the left hand, and that the surgeon has already separated the metacarpal bone of the thumb, by the incision above-mentioned. The knife is now passed across the roots of the metacarpal bones to be removed, dividing the integument, the extensor tendons, &c. A flap, a little convex downwards, is thus formed—the way to the articulations being cleared by the division of all fibrous bands in the neighbourhood, the surgeon bends the metacarpus forcibly towards the palm, and the dorsal ligaments thus put well on the stretch, yield to very gentle touches of the knife; by a little additional force the bones are now dislocated, the palmar ligaments then divided, and the knife carried close beneath the bones to be removed, prolonging the incision in the palm sufficiently to obtain a flap that will cover and protect well the carpal stump. The articulations which the bistoury has in this operation to traverse, may for practical surgical purposes be regarded as one which in its general outline is transverse, the main exceptions to this form being

at its two extremities, for the root of the metacarpal bone of the fore-finger has a somewhat zig-zag shape, and that of the corresponding bone of the little finger, is joined to the unciform in a slanting direction, the inner or ulnar border of the joint being the highest.

It is a much safer plan not to dress the wound in these cases until some hours after the operation, as bleeding is now and then troublesome, even after the surgeon considers that he has taken great pains in securing the arterial branches.

Amputation of the hand at the wrist-joint

Is a very easy operation, and may be performed either as a circular or a flap operation.

The surgeon feels for the styloid process of the radius, and for the corresponding process of the ulna, and observes the fold of the integument at the wrist, or the faint line which separates the hand from the fore-arm.

The wrist-joint is higher than might be supposed at first sight, and when we bend the hand backwards and forwards, for the purpose of discovering it, we must take care not to be deceived with regard to its position, by that degree of motion which the upper has upon the lower row of the carpal bones.

Circular Method.

An assistant retracts the integuments forcibly, another may steady the extremity of the fingers; the knife is now carried round the wrist as close upon the hand as possible, and the integument thus divided, which being further drawn in the direction of the elbow, the surgeon, by another turn of the knife, divides the tendons before and behind the joint, which last is next traversed, and the hand removed. There is no great difficulty in hitting the joint in the last step of the operation, for if its position should not be observed without such a precaution, one or two movements imparted to the half severed hand will shew where the knife should enter.

Flap Operation,

Performed more or less in the same way as in amputation of the fore-arm, a little higher up. A small catlin is passed across the front of the joint, and is brought out upon the commencement of the hand, dividing all the soft parts between the exterior of the fore-arm and the anterior aspect of the joint; in other words making a flap in this situation, which is slightly convex downwards. In making this flap, the surgeon will do well to get hold of the integument from the sides of the wrist as much as possible; it will afterwards be easy to include all the remaining integument and soft parts behind the joint in the next flap, which is formed in the same manner as the other, the knife passing close behind the bones.

The two flaps being formed, it does not matter much whereabouts the point of the knife first enters the joint. If the hand be a little bent back, or in anatomical phrase, extended, the anterior ligament being put on the stretch will easily yield to a touch of the catlin, and the articulation once opened, we need not employ more words to shew how the operation should be completed, although it may be well to remember, that the lateral and anterior ligamentous bands are stronger than the corresponding structure at the posterior aspect of the joint.

By the method of M. Lisfranc this operation is very speedily performed. Having cut the two flaps, they are drawn towards the elbow by an assistant. The operator then applies the middle of the knife on the lateral ligament of the radial side, and forcibly carries the instrument through the curve of the joint, and thus separates the hand from the fore-arm;—a brilliant proceeding, but an operation the results of which are regarded as less favorable than those of the circular method.

Amputation at the Elbow Joint.

To discover the exact position and direction of the elbow joint is also not quite so easy as might, at first sight, be supposed. The surgeon applies the fingers of his left hand to the projecting tuberosities of the humerus, inside and outside; the joint, however, is not, as we are all aware, immediately below them; but if a line be drawn between their most projecting points, and we suppose a line in the same direction somewhat less than an inch lower down, we shall have pretty nearly imagined the position of the joint.

In Lisfranc's operation at the wrist joint, a knife may easily be carried across the articulation, and will readily enter at either side; not so with the elbow: on the radial side, the instrument enters at once, as there is ample space for it (during extension) between the head of the radius, and the corresponding part of the humerus; the approximation, however, of the ulna, and the corresponding trochlea of the humerus, is much closer; along with which the winding course of this side of the joint refuses easy admission to the knife.

Hence two practical cautions,—1st, to take care that we do not mount too high in the bend of the arm in cutting the anterior flap; 2d, that we do not attempt to open the joint by commencing on its ulnar side. These are worthy of being remembered, although even Dupuytren could forget the former, and err as often in consequence.

Flap Operation.

The bend of the elbow is transfixed by a catlin kept close to the fore part of the joint: it is carried downwards in front of the bones, and a flap of about three inches in length is cut from the fleshy part immediately below the joint, which is sufficiently long to fold backwards, and cover the end of the humerus about to be exposed. The integument behind is now to be divided, on a level with the commencement of the first incision: the knife next enters the joint between the radius and humerus, where it is soon arrested by the ulna. The ligament at the ulnar side of the joint may now be divided, and the fore part of the joint completely opened: next, the fore arm may be a little flexed on the upper arm, by which the olecranon will, as it were, be brought down, and the point of the catlin carried around it, will divide its ligamentous connections, and sever the tendon of the triceps, by which the operation is completed.

It is not difficult to enter the knife at the radial side of the joint at the same time that we divide the integument at the back, and the surgeon may, if he think proper, pass a saw through the olecranon, and leave its extremity attached to the tendon of the triceps. In operating on the right arm, the catlin may be introduced from within, outwards—from without, inwards, on the opposite limb.

Circular Operation.

The integument is divided around the fore-arm, three fingers' breadth from the joint, and then dissected upwards. The catlin is now passed around the limb, through the soft parts, dividing the tendons of the biceps and brachialis anticus—the anterior and lateral ligaments: the joint is forcibly luxated—the point of the knife carried around the olecranon, and the operation completed.

If the integument, after the first incision, be dissected up as far as the articulation, and the muscles afterwards cut as high as the line of the joint, the humeral artery will be divided before its bifurcation, and the trouble of securing blood-vessels abridged; besides which, the flap will consist almost solely of integument, which will be favorable to the future healing by the first intention; hence some surgeons give the preference to this mode of operating.

Amputation at the Shoulder Joint.

The arm may be separated from the trunk at the shoulder joint, in several different ways, as it is evident that the contour of the incisions for effecting this object might be very much varied, for if a circular incision were made around the arm near to the joint, and the integument sufficiently dissected up, the knife might be got into the joint—turned round the head of the humerus, and brought out on the axillary side of the arm, and in this way, the limb removed: or, if instead of this mode of commencing the operation, which is the same as in the ordinary or circular amputation of the upper arm, the outer half of the division in the integument should be carried higher than the inner, so as to make an oval section of the skin—its upper extremity a little below the acromion—the lower at the inner aspect of the arm,—a kind of oval operation would be performed, and the soft parts, from before and behind, afterwards united in one line on the external aspect of the stump. Again, the operation may be performed by making one flap of the deltoid, carrying the knife through its base near the joint, and cutting outwards in the direction of its insertion. Or instead of one flap, we may make two,—one from the outer and fore part, the other from the opposite aspect of the upper part of the arm.

The operation by the oval incision, however, before-mentioned, would be rather awkward of execution, unless a single and straight incision were added to it, going from the middle of its upper part towards the point of the acromion, and this might be said still more of the circular incision; so that, in reality, the methods of operating which have been chiefly advocated,—are the single flap—the double flap, or method of Lisfranc, and a modification of the oval, or method of Larrey, although the circular operation, or method of Ledran, has been practised and praised by different surgeons—English, French, and German.

The flap operations are easier of execution, but the oval or circular methods leave better stumps—hence some surgeons prefer the operation of Larrey to all the others which have been proposed; but it will be readily understood, that we are not often called to amputate at the shoulder-joint, except in cases where the neighbouring parts of the arm have suffered from the progress of disease, or are shattered by accidental injury, so that the method of operating will often, as it were be dictated to us by the state of the parts, or by circumstances over which we have no control: hence in cases where the integument, at any part near the joint, has suffered so much that it would be in vain to attempt its preservation, we must seek to cover the glenoid cavity about to be exposed, by a flap from an opposite aspect. In the

Single Flap Operation.

A catlin is passed through the outer side of the arm, close upon the head of the humerus, carried downwards towards the insertion of the deltoid, and a flap of sufficient length cut from the body of the latter muscle; next, the capsule of the joint is opened on the outer side, the point of the knife carried round the head of the humerus, which being set at liberty and dislocated by moving the elbow, the knife is again applied on its inner side and the limb separated from the trunk.

The first flap is raised by an assistant as soon as it is formed, who continues to hold it over the top of the shoulder, and the same assistant may, with the fingers of the other hand, seize and compress the artery in the axilla before the last stroke of the knife is effected.

Double Flap Method.

The first flap is formed in the same manner as the flap in the operation just described, save that the catlin is introduced at a point nearer to the hinder aspect of the axilla, so as to make a flap in this direction, by passing the point of the instrument over the head of the bone, at the same time elevating the handle so as to get round the head of the bone easily, and complete this first transfixion at the anterior margin of the deltoid.

This flap being raised the joint is freely opened, the arm carried across the chest, and the head of the humerus dislocated. The knife is next passed behind the head of the bone, and brought out through the remaining soft parts, so as to form a second flap, in size corresponding to the first. When the second flap is being formed, an assistant follows the back of the instrument with his fingers so as to secure the axillary artery.

We have described the operation as performed on the left arm. When the right has to be removed, the knife enters at the anterior border of the deltoid, and passes on near the posterior margin of the axilla, the surgeon, placing himself accordingly. The length of the flaps in this operation must be regulated in some measure by the bulk of the limb to be removed, and the extent of the surface afterwards to be protected.

Oval Operation.

Imagine a longitudinal section (through the middle) of a pear with its foot stalk attached, and you will have a tolerably good idea of the contour

of the incisions in this operation: the foot-stalk part of the section corresponds to the point of the acromion, the broad and rounded end passes under the arm. In the operation as performed by Larrey, the foot-stalk, or first incision, is a longitudinal section through the middle of the deltoid down to to the bone, commencing over the head of the humerus, immediately beneath the acromion, from this incision two others are carried, one on each side, which tend towards the inner or axillary aspect of the limb where they meet.

The first incisions in this way formed their sides are forcibly separated by an assistant, the adhesions to the bone on each side having been set free by the knife, the surgeon next carries the catlin into the joint, which he freely opens, and then passes the instrument behind the dislocated head of the humerus to complete the operation in a line corresponding with the preliminary section of the integument underneath. In the

Circular Operation,

the knife is turned round the arm four fingers breadth below the acromion, and the integument thus divided, is next dissected up, the surgeon now cuts obliquely through the deltoid, divides the tendon of the biceps, and opens the joint, the head of the humerus being partially dislocated, the catlin is passed behind it, and brought out inside to complete the operation.

Having already occupied some time in describin the amputations at the shoulder joint, this account of the circular method is made somewhat short: but it is to be remembered, that the difficulty of dislocating the head of the bone in this operation is very considerable.

Some surgeons have recommended, instead of the oval—or what we have attempted to illustrate as the pyriform incision with the foot-stalk attached, an incision of the inverted **Λ** kind, the two free extremities being joined below by a curved incision which would pass under the arm, the point of the **V** approaching the acromion: the main objection to this method is the chance of the bone projecting afterwards for want of an adequate covering from the soft parts.

Sir Charles Bell, in his work on operative surgery, recommends us to be aided in this operation by assistants, stout and strong, capable of compressing the artery above the clavicle, and against the first rib (which may be done with the aid of a key or boot-hook, the end being coated with linen), and having sufficient surgical knowledge to manage the blood vessel as soon as it is divided, that the patient may suffer as little as possible from hæmorrhage, and this you may rely upon it is a very valuable caution; for I well remember, when very young, and not very strong, having to compress the subclavian artery with a key, and the fatiguing effort which it required, but no other assistant being present, I was obliged to prolong the exertion despite the inconvenience. In such a case, however, it is desirable to save one's strength as much as possible until the latter part of the operation.

During this operation the trunk should be well steadied by an assistant on the opposite side, who holds a jack-towel which has been passed closely under the axilla of the affected side, and two other good assistants should also be present.

TO CORRESPONDENTS.

Will Z. give [illegible] that [illegible] of the value of his remarks?

Argus *writes us a [illegible] article on Medical Reform, a subject on which all observations at the present moment are of little use, [illegible] a name adds some authority. [illegible] decline the paper.*

The Crichton Institution, Dumfries.—*We have [illegible] an article relating the [illegible] performance of [illegible]'s farce of "Raising the Wind," by the [illegible] inmates of this asylum. [illegible] thing went off [illegible] and the [illegible] of pleasing excitement [illegible] is the [illegible] great [illegible]. We are glad to hear of the [illegible] experiment, and [illegible] Dr. Brown [illegible] cordially on its success.*

M. R. C. S. *complains that we or our aids have done Mr. Yearsley injustice in our demonstration of Mr. Thornton's plagiarisms. We do not deny that the first opinions expressed leave the matter unsettled as to who was the real plagiarist, for that question was not reached till we came to the consideration of the facts, which all but conclusively proved Mr. Thornton to be the gleaner. The word* openly *was merely used as intimating a remote possibility that Mr. Thornton might be able to allege something in his defence we were not acquainted with. The offers made to us are very obliging, but we beg to decline them. We observe by the way, that the "Medical Gazette" has innocently published the deplorably incorrect case of Mr. Thornton, to the reception of which we referred in our critique*

Mr. Luce.—*We have given the answer several times recently in our notices to correspondents.*

M.N.P.—Hibernicus—A Medical Reformer—J.H.—An Enquirer—*declined. The last correspondent is informed that we encourage no such Paul-Pry-ism.*

A Correspondent calls our attention to Dr. Lindley's assertion in his Introduction to the Natural System, that the fruit of the umbelliferæ is in no case dangerous, and to Dr. Pereira's recent declaration before the Pharmaceutical Society, that a gentleman was really poisoned by an infusion of anise, in which some seeds of conium maculatum were discovered. The extractum conii according to Paris is much more powerful when the seeds are included. Is Lindley therefore right?

The Hunterian Oration will be given by Mr. Arnott on Monday next at 2 o'clock. Our readers will be as fortunate as the hearers.

THE MEDICAL TIMES.

SATURDAY, FEBRUARY 11, 1843.

> Eripere vitam nemo non homini potest:
> At—mortem! Mille ad hanc aditus patent.
>
> SENECA.

As Sir James Graham is pledged to introduce his new Medical Bill early in the session, we hasten, before he stands compromised to a serious and ruinous defect, to invite him to a re-consideration of that part of his measure referring to one of the most practical of our grievances—Empiricism.

If we are to believe numerous concurring authorities — among whom is a recent Quarterly Reviewer—he proposes to content himself with restricting all public medical employments to the duly-qualified, stripping the unqualified of exemptions to serve as jurymen or parish-officers, and making their certificates useless in courts of law. If this statement were not authenticated, we should take it for the invention of a political enemy. As it is, however, did homœopathist, in wildest imagination, ever reach to such infinitesimal doses for lightest malady, as those prepared by the Home Secretary for the deadly gangrene, Empiricism? We regret to say it—but truth in an independent journalist must out—the malady our State physician would cure, he has caught, and the quackery he would suppress, is sanity, wisdom, to the quackery that pretends to its suppression. Sir James will restrict to *us*, public medical employments—but are they not so restricted already? Quacks shall serve as jurymen and parochial officers—but who shall be bettered by that but the quacks, whom, so serving, they may favour? Their certificates shall not be taken by magistrates—and what magistrate takes them now? If this be your discouragement, this your suppression of quackery, permit us frankly to tell you, Sir James, that we prefer to leave it its present impunity; for you do worse than leave wrongs as they are: interposing the law, you enact them a legalized standing, which gives them the gloss of right!

But there are reasons, we are told—grave and convincing reasons—why the Profession is wrong, and Sir James Graham right. Some of our titled surgeons and physicians, who, despite their success, feel yet the rebellious remains of early salaciousness in the cause of a sly bit of quackery, and whose evil communications reach occasionally higher than the council board of a College, these have exercised, of late, no little ingenuity in the discovery of sage reasons why their amiable *chere amie* should remain unmolested under their unpublished protection. One of them has been fortunate enough to get leave to speak through the last number of the *Quarterly Review*, and as his argumentations are intended to halloo on the Home Secretary in his proposed course, it may, perhaps, be some little service to the public, no less than to ourselves, to give the singular and occasionally ambiguous text, the benefit of an elucidatory commentary.

The writer has three reasons why the suppression of quackery should not take place: it would be, first, impracticable—secondly, improper—and, thirdly, inexpedient. We are told, that on the occasion of a royal entry, a certain pragmatical mayor having to apologize for the non-presentation of the city keys, and commencing a long categorical enumeration of the causes, with the declaration, *imprimis*, "there were no keys to present," was stopped with the good-humoured assurance that that cause proved, the rest could be spared. Now, though the *impracticability* of a given course, be, like the mayor's deficiency, a tolerably settling sort of argument, yet as we can have no objection to hear any still more conclusive, which the author may feel it necessary to add, we will, with our readers' permission, give our mayor of the *Quarterly* the liberty of going through the whole of his category *seriatim*:—

First,—We are convinced that the thing is impracticable. It may be made penal for a man to call himself a physician or surgeon, or apothecary, who has not obtained a licence; but how is he to be prevented from giving advice, and medicine too, under the name of botanist, hygeist, homœopathist? Or he may put doctor before his name on the door, and say, probably with truth, "I am a doctor, for I purchased the degree of doctor of philosophy for £5 at Heidelberg." Moreover, the experiment has been already made, and without success. The College of Physicians of London are armed by their charter and Acts of Parliament with ample powers for the purpose, but they long since abandoned the exercise of them in despair; and in France, where the legislature have done all that they could do to suppress it, quackery flourishes as much as in any country in the world. But, secondly, even if the suppression of unlicensed practitioners were practicable, we are far from being satisfied that it would be either proper or expedient. If the art of healing had attained perfection, if physicians and surgeons could cure all those who apply to them, we grant that the case would be

otherwise; but, as matters now stand, would not such a proceeding be a very tyrannical interference with the right of private judgment? Let us see how such a system would operate in a particular instance. A patient labours under an incurable disease. His case is hopeless. His medical attendant complains in a court of justice, or some one complains for him, that the patient has placed himself under the care of an unlicensed practitioner, who has never studied medicine, who treats all who consult him with the same remedies, and believes that most of the diseases to which mankind are subject arises from cows eating buttercups; and therefore he requires that the interloper should be punished. But it turns out that the remedies which this individual administers are innocent; and as to the theory of buttercups, it is as good as Cullen's theory of fever, and it can do no harm. It is a comfort to the patient to try this new scheme, and wherefore should he be prevented from doing so?

It is really something amusing, to see a medical man, and one, if we are well informed, of no mean standing among the ruling authorities of the profession, thus talking of such a thing as the impropriety of the suppression of quackery. Quackery dealing with human life, either for good or ill, can be a thing of no negative character; and he that declares its suppression improper, has done more than declare it no evil—he has put it in the class of good. In his creed of virtues, Empiricism finds a place as much as Patriotism: they may differ to him in extent, but in kind their qualities are the same. Now did the writer of this implied eulogium reflect that Empiricism, and the Profession he is a member of, being opposites, he cannot declare that the former should *not* be suppressed, without affirming that the latter *should!* There can be no medium point for extremes: if the order of quacks be good, ours must be bad, and *vice versa*. The penalty of either's malpractice is pain or death to some one: the class of the two, therefore, whose opposed principles are wrong, lives by the injury, the assassination of the community. The question comes—Is that class ours, or the Empirics? Whichever it be, it imports that that class cease to be.

But let us consider "the impracticability." The argument takes this form: "You may punish pretenders to *regular* titles, but not pretenders to irregular titles. You cannot even prevent the assumption of regular titles by pretenders. The College of Physicians, and France, have tried, and failed, to suppress quackery.—*Ergo, &c.*" Now, all the assertions here made, are either wholly or partially false; and were they *all true*, they are yet considerably too narrow to justify so wide a conclusion. There are a thousand ways of suppressing quackery, besides interfering with quacks' assumption of this or that name; and there are a thousand systems which might *be introduced*, besides those tried in London and Paris, which plainly owed their want of success to *inherent* deficiency. To give one plan—our own—Why shall there not be a broad legal distinction at once drawn between the class of Doctors and that of Quacks? Why shall not the real and the counterfeit be distinctly badged by the State with the insignia of their distinction before the people? Why may not the quack be compelled to register himself as a quack, and—if he must be permitted to practice his nefarious calling—be at least obliged to buy an expensive license, yearly, from Government? Who does not see how the public badging would diminish the prestige of his reputation?—how the annual tax would lessen the attraction of his calling? Why, further, shall not magistrates, and especially coroners, be endowed with powers of summary but moderate punishment, for every case where health or life may have suffered through malpractice? But we shall be told that all this, while it would elevate the high standing of the professional man, and lower the position of the pretender—while it would reduce quacks to the more respectable of their number, and terrify them into moderation and decency—would not totally suppress Empiricism. What evil is totally suppressed? Is dishonesty, drunkenness, assassination? Suppression of quackery, like suppression of every other wrong, is but a relative term—and as we call him perfect who has least vice, we may call that suppression which exists in the smallest shape compatible with the exigencies or powers of a society which must always be, more or less, imperfect.

The failure of the College of Physicians, and the French Government, to root out all Empiricism, may be admitted: and accounted for by the clumsy machinery and limited powers by which they acted. But does any one doubt that the French laws,—imperfect as we know them to be, and as the Academy of Medicine has lately declared them to be—have stopped much Empiricism? A single reference to Paris and London, with one further thought to the extensive practice of five-sixths of our druggists, furnishes a ready answer, and makes us wonder how France could have been cited by a writer of ordinary reading or observation, as proof that laws do not avail in counteracting Empiricism.

The "impropriety" of legal interference is proved by this valuable argument: accomplished physicians cannot cure all patients; therefore, there should be ignorant quacks, whom *curables* and incurables may consult. And, in further support of this reasoning, it is affirmed that quacks are harmless—and that to prevent their practice is to infringe individual liberty. The plain analysis of the argument is its complete refutation. We have, throughout it, nothing but false facts and unsound logic. The non-curability of certain patients, by an accomplished practitioner, is an argument, *a fortiori*, *against* the usefulness of a quack. If the incurable cannot be made better, he can be made worse: and it is surely no unlikely thing that the ignorance which blindly rushes to do more for the disorders of so delicate and complicated a piece of machinery as man, than the most practised skill has been enabled to effect—will terminate its rash meddling by leaving the derangement still more disordered. The writer, to acquire even a scintilla of force for his argument, must have two things believed, which are the very opposites to fact,—first, that the consultants of quacks are all incurables; and, secondly, that all quacks are harmless. Is one word more necessary, to prove the exceeding absurdity which may be perpetrated for reasoning, by even a sober Quarterly Reviewer? If the writer be Sir Benjamin Brodie, as some assert, our pity for his powers of ratiocination turn into real alarm for his unfortunate patients. The plainest symptoms must be lights that only shine to mislead, to one whose psychical education leaves him so utterly incompetent to deal with the plainest and commonest reasoning *data*.

The author tells us, that to suppress quackery is to interfere with personal freedom. Of course it is. So is the suppression of thieving. So would be the exercise of the discretion of the *Quarterly's* editor, which would prevent the worthy writer's again befouling the work's pages with such inconsequential reasoning. But it would be a good interference: it would prevent quacks who are *not* "harmless," injuring curable, and killing incurable patients. If we were ill off for a proof of this, we should turn, oddly enough, to a part of the writer's own statements. He tells us:—

"A man may run the risk of ruining himself if he be pleased to do so, by embarking his money in a Cornish mine, but he must not enter into such a speculation with the money which he holds in trust for others. In like manner, each individual has a right to manage his own health in his own way, and to consult whomsoever he prefers about his own complaints; but it is quite different when he has to provide for the health of others."

And has not the State, as one of its highest duties, "to provide for the health of others,"—the others being the whole people?—and if, on that principle, the State be bound, as the reviewer states, to ward off empirics from soldiers, paupers, and felons, shall it take no pains in guarding that other portion of its subjects who are certainly not less worthy of special protection? But taking the depreciating term, money, as a point of comparison with health, does Sir Benjamin Brodie think that the State should encourage hell-keepers, pickpockets, swindlers? If not, on what principle shall it encourage quacks and charlatans? The one class of scoundrels are certainly not more dangerous to the valuable, than the other are to the priceless boon.

We would earnestly warn Sir James Graham against being misled by Court surgeons and physicians, who are too apt, in the glow of their young elevation, to overlook the *useful*, in their confused zeal for the *respectable*. It is a pretty and a genteel thing to say, "*We* have none of that vulgar narrow-mindedness of class which makes some of our brethren so intolerant of irregular competition:" but we would beg such liberal-minded and affluent prac-

titioners to remember, that though the ground, that empirical interference with the claims of an impoverished profession is wrong, be very tenable; our brethren, with ourselves, mount to the higher position—that, however bad to the profession, it is infinitely worse to the public. It is on that ground, and that only, that we have felt it necessary to prove that that removal is not impracticable nor improper, but the contrary; and to call on Sir James Graham, if he wish for the shadow of success for his Bill, to pay no heed to medical advisers who neither know the public nor their own profession—and to do at least as much for the quacks of England, as Napoleon thought it politic to do for those of France.

MESMERISM.

We are happy to be able to present our readers with the results of the maturest deliberations of the *Lancet* on mesmerism. The opinions of so high a scientific authority given at two distinct epochs, cannot but throw a light upon this once very obscure branch of psychical medicine, which will leave little for further researches to achieve.

Lancet, (*First Serious Notice*), Oct. 29, 1842.

Mesmerism is too gross a *humbug* to admit of any further *serious notice*. We regard its abettors as quacks and impostors. They ought to be hooted out of professional society.

Lancet, (*Second Serious Notice*), Feb. 4, 1843.

Of Mesmerism we are too sick to descant upon it at any length, and there are but few members of the profession so utterly devoid of reasoning power as not to know that the Mesmeric Phenomena, in so far as they are true, form merely a heterogeneous mass of materials for the study of psychical medicine, and are wonderful (phenomena!) *only* to those who are unacquainted with the aspects of disease. When we continually see patients labouring under hysteria, and analogous forms of nervous disease, falling suddenly into various states of stupor, trance, and convulsion, without any assignable cause, why should we wonder at similar states being induced by so slight a cause as the pawing of a mesmeriser? And, knowing, as we do know, the remarkable power of habit in facilitating the repetition of nervous actions which have once taken place, why should we wonder that an effect which, a few weeks ago, it took half an hour's handy-work to produce, is now occasioned by two minutes' application of the same graceful process? In *these* things there is nothing either new or wonderful."

It is truly distressing to witness such an exhibition of low-bred and unscientific lunacy as is here displayed, in a journal, which, though cast off, and on the streets, still pretends to be connected with a gentlemanly and educated profession. The gross humbug of four months since, unworthy of serious notice, whose abettors were to be hooted out of society as impostors, is *now* the admitted source of *phenomena*—the creator of *a mass of materials* for the psychical philosopher! To crown the heap of absurdity, we are told that stupor, convulsions, trance, produced in two minutes by the mere movement of a second party's fingers, (those results which, from their incredibility, were, once, imposture and humbug so gross, as to admit of no serious notice) are *phenomena*, it is true—but phenomena neither "wonderful nor new!" The *Lancet* knows of phenomena not *wonderful!* In the same article we find the ingenuous editor expressing his "belief that the information of the medical profession generally, on matters of natural science, was very little greater than that of the people at large;" adding, "this is an extremely humiliating fact!" And what a happy illustration of its truth is furnished by the editor! How happy must the worthy scribe be, while writing on professional ignorance and incapacity! He has his practical and undeniable proof always conveniently near at hand! But, with such exhibitions, is it wonderful that the house of Longman and Co. sell less than one-third of their former number of *Lancets*, or that Hodges and Smith, of Dublin, sell seven or eight copies in the place of five hundred? *Quem Deus vult perdere dementit.*

CASE OF PUERPERAL CONVULSIONS ANTECEDENT TO, DURING, AND SUBSEQUENT TO LABOUR.

By Charles Clay, Member of the Royal College of Physicians, London, College of Surgeons, Edinburgh, and Lecturer on Medical Jurisprudence and Medical Police, Piccadilly, Manchester.

Puerperal convulsions are, at all times, cases of considerable interest to the medical reader; the following one, though it offers nothing very remarkable, yet may serve to encourage junior members of the profession, and convince them that such cases cannot be treated too energetically to ensure a successful result. Mrs. Pomfret æt 21, first child, asthmatic tendency, short in stature and rather thin, commenced having slight labour pains on the Monday morning, at the early hour of 1 o'clock, Jan. 23, having experienced a slight fit the day before, which did not alarm the family so as to take any very particular notice of it, considering it hysteric; severe purging followed the fit, and as before stated, slight labour pains took place soon after midnight. On visiting her I made an examination, and found the os uteri dilated to about the size of a shilling, thick and rigid, membranes as yet entire, pains trifling but frequent, with very short intervals between; after encouraging my patient I left the room, promising to return in about an hour, ordering a little gruel. About an hour after I ascertained the progress; the os uteri dilated to little more than half a crown in size, still rigid and thick; pains frequent, with scarcely any intermission. I waited for half an hour longer, and determined to bleed if the progress was not more satisfactory; at the end of that time I was summoned hastily up stairs, my patient being in a strong convulsion; I opened a vein in the arm, and abstracted as rapidly as possible about twenty five ounces of blood, when the fit abated. The os uteri was but little altered from last report. Pulse fell considerably after bleeding, and became very soft; I therefore deferred delivery, in the hope no further unpleasant symptoms would occur. The uterine pains had now left her entirely, consequently little additional alteration in the os uteri, within half an hour of the bleeding, however, another convulsion came on, *no further time was to be lost*, I abstracted about fourteen ounces of blood, and then proceeded to deliver, first emptying the bladder by the catheter. On examination I found that during the last convulsion the membranes had ruptured, and the face presented. The wild and incoherent expressions, and turbulent conduct of my patient, convinced me every moment was big with importance. I endeavoured to pass the long forceps, but the difficulties attending their introduction occupying too much time, I determined on lessening the head, but had the mortification of finding my perforator missing from my obstetric case; situated thus awkwardly I commenced operations with the crotchet, fixing it as firmly as I could in the cheek bone, and after severe exertion succeeded in getting the head partly into the pelvic cavity, during which time two convulsions occurred, requiring the loss of about twenty ounces more blood. By this time my hold with the crotchet had become very precarious, I sent to a medical gentleman (living close by) for a perforator, but the messenger mistaking the name of the instrument, the gentleman arrived himself, to render me what assistance he could, of which I was glad to avail myself from the unruliness of my patient; the forceps were now applied, and the head finally delivered; she was now allowed a few moments rest before the body of the child was born, and in about twenty minutes after that the placenta came away easily. A bandage was applied, the pulse soft and compressible. I now retired to wash, but was immediately sent for, another strong convulsion had seized her, the vein in the arm was again opened, and about eight ounces of blood with difficulty abstracted, when the fit left her, and after a considerable lapse of time nothing indicated a return of the spasm; face very pale, pulse languid, breathing free; I left her with instructions how to act if any fit returned, and ordered her half a drop of croton oil, in a pill of castile soap, every two hours, until the bowels were well cleared out: it was now about 7 o'clock A. M. I had scarcely, however, arrived home, before I was again sent for; the fits represented as more violent; she was in one when I arrived; I endeavoured to get more blood from her, but could not obtain more than six ounces. The spasm however abated. An enema, with ol. terebinthinæ was administered, and a second in half an hour after the first; soon after the bowels were relieved of a large quantity of dark grumous fluid, mixed with blood, with little or no smell of fæcal matter. I continued in close attendance till half-past 2 P. M., up to which time she had had sixteen convulsions since the delivery, two during actual delivery, and three previous. During the forenoon she lost about sixteen ounces more blood. From half-past 2 P. M. no further convulsions took place. At half-past four she had slept a little, and awoke conscious for the first time, expressed herself perfectly ignorant of all that had taken place even from the Sunday afternoon when the first attack was observed, thus accounting for her unruly conduct. At ten P. M. she had again rested a little, felt free from pain, had voided urine, and had had a copious motion of a more natural smell and colour; no lochia. Tuesday, nine o'clock A.M., no return of convulsions, felt comparatively well, had rested well, no lochia; six o'clock P. M., bowels not moved, pulse rising, face slightly flushed, urine high coloured; ordered a saline purgative draught, no lochia. Thursday, quite as well as could be expected, bowels moved. Friday, remained well. Saturday, continues well. Sunday, the same. Monday, the same further close attendance unnecessary.

OBSERVATIONS.

The quantity of blood taken in these cases is often enormous; in the present about ninety ounces proving not only that an additional quantity is in the system during pregnancy; but also that nothing less than the most extensive

bleeding offers any chance of a favourable result. The absence of lochial discharge is not uncommon where bleeding (on an extensive scale) has been resorted to. Convulsions commonly give way on the birth of the child, it being rare that they extend to the three periods here stated. In conclusion, a few words may not be amiss on the cause of puerperal convulsions, on which authors differ considerably. I think the immediate cause appears to be, that more blood is contained within the system during utero-gestation. The uterus has the character of a reservoir, by its great vascularity; and when that organ is in a state of almost constant contraction, the extra blood rushes into the general system, and the brain, as the most sensitive organ to any increase in its circulating system, first exhibits its effects in the form of convulsion from compression; and the stertorous breathing subsequently, sufficiently confirms it. When there are long intervals between uterine pains, the blood re-assembles in the uterine mass, and no mischief ensues: when once the mischief has been produced in the brain it is not immediately relieved, though uterine contraction may be absent, as in the case just related. First labours are most liable to convulsions, and least liable to hæmorrhage, from the greater energy displayed in uterine action. On the contrary, after many labours, they are most liable to hæmorrhage and least to convulsions, from the want of a proper degree of uterine energy. The absence of after pains in general, in first labours, is accounted for by the energetic contraction immediately after the completion of labour, whilst the almost certain occurrence of after pains, in subsequent labours, shews that uterine energy is wanting, and the uterus is, therefore, longer in completing its contracted state after labour.

LECTURE ON STARCH.

Delivered January 27th, at the Royal Institution.

By Professor BRANDE, F.R.S., &c. &c.

The lecturer commenced by stating, that the old mode of preparing starch was by steeping grain in water until it became soft, when it was subjected to pressure, and a milky juice exuded, which passed into water, and gradually subsided. The precipitate was starch mixed with impurities.

If grain be powdered, that is, reduced to the state of flour, and washed with water, it will be separated into two leading parts: that which is removed by the water, although not soluble in it, is starch; the other principle is gluten. It possesses the property of elasticity, and aids materially in the manufacture of bread, by causing it to rise. There are some other matters in wheat of minor importance. Wheat contains—

Starch	70.84
Gluten	12.10
Sugar	4.9
Gum	4.6
Water	8.0
	100.44

There are a number of interesting particulars connected with gluten, which have been recently investigated,—one of the most important of which is, that its ultimate composition is identical with that of animal fibre. When it enters into fermentation, it passes readily into the putrefactive stage, on account of the nitrogen it contains. When rubbed with soda or potass, it gives out ammonia. Its composition is as follows:—

	Marcet.	Zenneck.
Carbon	55.7	45.80
Hydrogen	7.8	3.37
Oxygen	22.0	33.33
Nitrogen	14.5	20.50
	100.0	100.00

It is a very common, in fact, almost a constant ingredient in many vegetables, which consequently form fitting nutriment for granivorous animals. It dissolves readily in weak alkaline solutions, from which it is precipitated by acids. Certain acids easily dissolve it,—among these is vinegar, or the dilute acetic acid. In either case, if the process be carefully and properly effected, the starch remains unaffected.

Starch is now prepared in the following manner:—the wheat is ground into flour, mixed with water, and fermented. The liquor becomes sour, either acetic or lactic acid forms, by which the gluten is separated, and partly dissolved. The fecula is then washed in hair-sieves to separate the bran, and afterwards allowed to subside. The dirty liquor is next poured off—the serum scraped off the deposited starch, which is washed, and again strained through a fine sieve, and purified. The next process is, that of stove-drying, after which the scum is again removed: it is then boxed, and again stove-dried. On the completion of the process, it is no longer an homogeneous mass, but when a paper is opened, it breaks into columnar pieces, exhibiting a tendency to crystalization.

In this process, the object to be attained by inducing fermentation, is the removal of the gluten. An acid is formed, by which it is in part dissolved, the other part being precipitated upon the starch, from which it is removed by scraping.

Starch, when thus prepared, is white, and is coloured with cobalt, or indigo blue, for the market, and for the various purposes to which it is applicable.

In the process for obtaining starch, which has been just described, wheat only can be used, and large quantities are annually employed for that purpose. Mr. Jones has taken out a patent for obtaining starch from rice; by effecting which a double object is gained,—by increasing the demand for rice, its cultivation is necessarily advanced, while the more valuable grain previously used is economized. The theory of his process consists chiefly in the separation of the gluten—not by fermentation, and the formation of an acid, but by means of a weak alkaline solution. The rice which is employed is that called Patna rice. It is impure from adhering substances, and from a little lime which is always added, to prevent injury by insects. To get rid of these, the rice is dusted, and steeped in a weak solution of caustic soda. The success of the process necessarily depends on a due adjustment of the strength of the alkaline solution. Mr. Jones prepares it with 200 grains of caustic soda to the gallon of water. The rice is then rendered softer and whiter, and can easily be crushed. It is then ground into powder. This first application of the alkaline solution removes some gluten. The powder should then be mixed with a fresh alkaline solution, which readily dissolves the gluten. It should be steeped for 24 hours each time, and on the second occasion afterwards allowed to deposit. A very curious circumstance now takes place: there are two distinct sediments, the nature of the first is not fully understood; it is supposed to consist of fibrous matters, and is quite distinct from the starch which falls gradually on it. The starch is collected, washed, and boxed, in the usual way; the mass is dried to a certain extent on porous brick or chalk, and then stoved, when a crust forms on it, which must be scraped off. The mass is next put up in paper, and then resembles that procured from wheat. It is white also, and is colored precisely as the wheat starch. On opening a paper, and breaking the mass, it separates into columnar pieces, which have their bases externally, and appear to shoot towards the centre.

The old and new processes differ in no case more than in the mode of removing the gluten. In the one it is effected by fermentation; in the other, by means of an alkaline solution. The chief advantage consists in the time saved in not waiting for the fermentative process, and in the economizing wheat by the substitution of rice.

Having thus got rid of the principle containing nitrogen, we shall find that starch consists of carbon and the ultimate component of water.

	Wheat-starch.	Arrow-root.	Potatoe-starch.
Carbon	42.80	44.40	44.25
Water	57.20	55.60	55.75
	100.00	100.00	100.00

There are several varieties of starch, which are used as articles of aliment. Among these are the different forms of sago. The granulated form of sago is entirely artificial—it results from its mode of preparation. Sago is obtained from the pith (improperly so called), i. e., the fibrous matter in the centre of certain palms. This material is ground up, and washed in cold water, by which the sago is extracted from the pith, and afterwards deposited. It must be obtained before the fruit is formed, as, otherwise, a large portion thereof is extracted for the purposes of nutrition. From five to six hundred pounds weight have been procured from a single tree.

The other varieties of starch are, the Otaheite sago, or arrowroot, which is prepared by the natives converted by the missionaries; the Tous les mois, prepared at St. Kitt's, from the canna-coccinea, arrow-root, the Portland arrow-root, from the arum maculatum, the Brazilian arrow-root, from the Jatropha manioc, and potatoe starch. There is an article sold as maize, or Indian corn starch, which is nothing else than potatoe starch. This latter is obtained by grating the potatoe, and washing it in water, when the starch will be removed, and deposited.

100 lbs. of potatoes will yield in the month of

August	10 lbs.	of starch.	
September	14½	do.	do.
October	14¾	do.	do.
November	17	do.	do.
March	17	do.	do.
April	13¼	do.	do.
May	10	do.	do.

100 parts of potatoe contain, in the average,

Starch	15
Gum	2
Fibre	7
Water	76
Total	100

The chemistry of starch has assumed, lately, a very important aspect, as it seems to be the first form from which the other substances of the plant are produced. Starch is not soluble in cold, but it is so in hot, water. In water at a temperature of 160 deg., the globules break down, and a part is dissolved in the water, the remainder forming a gelatinous compound. By long boiling, the whole is dissolved. The action of iodine upon it constitutes a very valuable characteristic, by which it can at once be distinguished. A very weak solution of iodine will impart a blue tint to starch, and an iodide thereof is formed. If, however, the starch be dissolved in an alkaline solution, instead of water, the blue color will not be produced, and the blue tint of an already formed iodide of starch will be destroyed by the addition of an alkali. Iodine, to act thus on starch, must be in a free state: if the hydriodate of potash (iodide of potassium) be added to a solution of starch, no apparent effect will be produced; but if, with this, some solution of chlorine be then mingled, the iodine is set at liberty, and its effects on the starch are speedily visible. This may be exemplified by exposing a paper, written on with a mixture of starch and hydriodate of potash, to the vapour of chlorine. The letters which, previous to the exposure to the gas, were totally invisible, soon become legible. The blue color of a solution of starch and free iodine, disappears on the application of heat, and returns as the liquid cools. These tests may be similarly applied for the detection of iodine, the starch in solution being added to the suspected liquids.

Under certain circumstances, starch appears to be the source of the other vegetable products: at certain periods, there is pent up in plants a large quantity of starch, which, in process of time, is called upon, and used in the formation of gum, sugar, woody fibre, &c. These processes can be imitated by art: by a high temperature, starch can be converted into gum; here, in London, this process is carried on, and the resulting article is

sold as British gum; in Paris, it is called dextrine and is used as a substitute for gum-arabic. If the gum thus produced be boiled for a long time, with a very weak acid, it will be changed into sugar,—and by analyzing these, and woody fibre, they are all found to belong to the class of compounds of carbon and water; so that all that is done in the operation of the various changes previously enumerated, is, the adding a portion of water. These processes are also effected in brewing. In the preparation of malt, a substance called diastase is produced, which converts starch into gum, and then the gum is changed into sugar by fermentation with heat, to the formation of sweet-wort.

The ugar, thus produced, is not the crystalline variety, but that known as the grape-sugar.

Potatoe starch is very cheap; and there is now a large manufactory in London where it is converted into sugar, for the purpose of adulterating the moist sugars. It is possessed of a certain degree of sweetness, but is weaker than cane sugar, and more is consequently required to effect the desired purpose.

MR. THORNTON'S PLAGIARISMS.

(To the Editor of the 'Medical Times.')

SIR,—In your spirited exposé of Mr. Thornton's literary delinquencies in your last number, you omitted to point out his more recent appropriation of Mr. Yearsley's language and opinions. The identity of the cases lately sent to your journal by Mr. Thornton, and those related by Mr. Yearsley in his work "On the Enlarged Tonsil and Elongated Uvula" (barring on behalf of Mr. Yearsley the distorted and garbled condition in which you got them from Mr. Thornton) is most striking. Permit me to make it manifest to you. In your last number but one (Jan. 21) appears the following case.—In Mr. Yearsley's work, published some months ago, you will find the passages quoted, at the pages and lines indicated in the margin. May I beg that you will cause the quotations to be placed side by side?

Enlarged Tonsils affecting the Voice and producing Deafness, Successfully Treated, by W. THORNTON, Army Surgeon, M.R.C.S.L. (See Med. Tim. Jan. 21)	Extracts from Mr. Yearsley's work "On Enlarged Tonsils and Elongated Uvula, &c.—page 72
A young gentleman residing in London, of strumous constitution, nine years of age was brought to me, delicate and pale.	"M. A. C. a girl of strumous constitution, fourteen years of age was brought to me, pale, weak, and of stunted growth."
He complained of distressing symptoms such as confirmed tonsillary disease can alone produce.	"She complained of a variety of painful and distressing symptoms, such as confirmed tonsillary disease can alone produce."
His hearing defective, the voice thick and nasal, and the articulation so indistinct, as to be almost unintelligible to strangers.	Page 79, line 22. "The hearing was extremely imperfect, the voice thick and nasal, and the articulation so indistinct, as to be almost unintelligible to strangers."
I prescribed frictions of the ointment of iodide of mercury upon the external fauces, and small doses of iodide of potassium dissolved in dec. sarsæ. concent. internally, also a rhubarb aperient administered twice a week. A tonic powder composed of carbonate of soda, rhubarb and calumba given alternately with the hydriodate of potash. The topical treatment of the tonsils were argentum nitratum applied by a pencil brush three times a week. In the course of a week, the tonsils felt quite soft, and began to diminish very rapidly; they were reduced to their natural size. I was anxious to give these remedies a fair trial before I had recourse to excision.	The identity of treatment is not a little remarkable. At page 44 of Mr. Yearsley's work he says, "When debility is present, a powder composed of calumba, sesquicarbonate of soda and rhubarb ni equal parts, is the est combination that can be given." At page 45. "Occasionally great benefit accrues from alternating the use of the tonic powder with the hydriodate of potash." It appears to have answered Mr. Thornton's purpose to cause the arg. nit. first to soften the tonsils, and then reduce them to their natural size. Here we find him at variance with Mr. Yearsley, who declares, that the arg. nit. will *not* reduce enlarged tonsils.
The effects of the combined treatment were most gratifying, and all the impeded functions were gradually restored, and the general health improved, and cured in the course of a month!!!!	Page 73 line 18. "The effects of the combined treatment were most gratifying." Page 72 line 8. All the impeded functions were gradually restored."
	I have looked Mr. Yearsley's book carefully through, and cannot find that he ever "improved and cured *the general health*."
The persevering medical treatment and dietetic restrictions are of paramount importance in the management of enlarged tonsils, especially when they occur in youth.	The two concluding sentences may be found at pages 43 and 47, omitting the words "the persevering." In the original it runs thus:—"medical treatment and dietetic restrictions are of paramount importance in the management of large tonsils, especially when they occur in childhood or youth."
When these remedies fail, it i only then necessary to resort to the operation, which is safe and painless.	"When the means now recommended fail to reduce the enlargement, it is necessary to resort to excision."

Now, Sir, I think you will admit that this extraordinary mode of fabricating a case is without a parallel in the annals of medical literature, and not doubting that you wish to do justice between man and man, I trust that you will give insertion to this communication, in your forthcoming number.

I have the honour to be, Sir,
your obedient servant,
Q.

PERISCOPE OF THE WEEK.

PATHOLOGY OF CHOLERA.—Dr. Fife of Newcastle states it his belief, that the heart and lungs being mainly influenced by the same system of nerves, are in cholera simultaneously involved, the morbific impression whatever it may be being made on that part of the nervous system. The condition of the blood also, is perceptibly changed, both physically and chemically. Drawn from a vein it exhibits a dark tarry appearance, and flows very slowly, owing to diminished fluidity, and the small proportion of serum it contains; which deficiency clearly arises, says Dr. Fife, from the large quantity poured off by the intestines—an effect inattributable to mere increased secretion from the alimentary canal. An increased quantity of mucus is certainly discharged, but the increase bears no proportion to the immense quantity of serum and water in the evacuated matters. The analysis of Dr. Shaughnessy and others, have proved that the blood in cholera is invariably deficient in its soluble saline, and aqueous components. Doubtless, the morbid absence of these will account for the remarkable—we had almost said miraculous—effect of saline injections in restoring the powers of the patient in cholera, though this restorative effect is but temporary.

STYRACINE.—A crystallisable matter was discovered by M. Bonastre in storax, to which he gave the name of styracine. The following is the process to obtain it with facility:—The storax of commerce should be treated with cold hydric æther, which is to be poured off after several day's contact, and the filtered liquid set aside for spontaneous evaporation. The dried residuum is then acted on by boiling alcohol at 40 deg., and the filtered liquid also set aside for spontaneous evaporation; when about three-fourths have been evaporated, the remainder is poured off, the crystals adhering to the sides of the capsule are washed with a little cold alcohol, and dried in joseph paper. The styracine may be obtained properly crystallised, and sufficiently pure, by being dissolved again once or twice in boiling alcohol at 40 deg. It may aslo be obtained by treating the storax several times with alcohol of commerce, allowing part of the liquid to evaporate each time spontaneously, and pressing the matter left between leaves of filtering paper, &c. But greater difficulty is always experienced by this process in getting rid of a green coloring matter, which always stain the crystals.—Styracine presents itself in the form of small needles, almost always agglomerated, of a very white color, without any sensible savor, and of a light, agreeable, balsamic odor. It is completely insoluble in cold and boiling water; it floats on the latter in the form of oily drops, which have a greater degree of consistence on the cooling of the liquid. Alcohol at 33 deg. dissolves very little, but it is more soluble in alcohol at 40 deg., and still more so in æther. Its alcoholic solution does not redden litmus paper; the addition of water render it milky. Concentrated ammonia has not any action on it, nor is it soluble even in strong solutions of potass or soda. Cold sulphuric acid carbonises it; the reaction is still greater if heat be applied. Hydrochloric acid has no influence neither when cold nor hot. Nitric acid transforms it into a very friable yellow matter, without any sensible taste, and a very marked odor of bitter almonds is generated, from which it is probable that styracine contains some cynnample.—M. Lepage gives the following as the result of the analysis of purified storax:—A neutral crystallisable resin, a green coloring matter, benzoic acid, and perhaps cinnamic acid.

ALBUMINATE OF IRON.—This preparation, better known in France than England, is usually prepared by the following method:—Albumen, or white of eggs, is diluted with distilled water; the mixture is filtered, and a solution of persulphate of iron is added until precipitation ceases, the deposit is then washed and dissolved in alkalized* alcohol. It is very evident, however, that this solution does not answer to its name, and in this state, from the amount of alkali it contains, will prove unfit for administration, in many cases where chalybeate tonics are indicated. It has been my endeavour to remove this objection, and after some experiments for that purpose, I find the solution of albuminate of iron is best made by dissolving its hydrous oxides in the newly diluted and filtered white of egg, which

* Caustic potassa must be used.

takes up a considerable portion of both the freshly precipitated protoxide and sesquioxide. The liquid may be filtered, and will be found by tasting to contain a large proportion of metal. In the case of the sesquioxide in particular, the solution will keep for some time without decomposition, and its permanence may be further increased by adding a little alcohol, with which it will mix without precipitation. In this respect it resembles many other preparationsof the same oxide. I have now before me two four-ounce phials of this preparation—the one with spirit, the other without any. The simple solution was made about ten days since and placed in a temperate situation, loosely corked, for the purpose of ascertaining its conservative powers. It is barely so clear as it then was, but differs in no other particular. The other phial, to which a little alcohol was added, has kept nearly three weeks without any visible alteration. When tested for iron, they both yield precipitates as before. It may be further remarked, that this preparation s compatible with caustic solution of potassa, and no doubt the other alkalies and their carbonates. As a therapeutic agent, the albuminate of iron is highly spoken of by M. Lassaigne and other high authorities, who recommended it s a preparation etpecially adapted by its nature, on theoretical grounds, for combining with the tissues of the body. It will no doubt, ere long, take a prominent situation mong the most esteemed of our chalybeates.

Marking Ink that requires no Preparation.—Mr. Rowland, of Liverpool, gives the following formula as of very superior merit:—℞. Argenti Nitratis Crystallorum, ʒiij.—Liquoris Ammoniæ fortissimi, ʒij. Solve. —℞. Cupri, ʒss.—Acidi Nitrici, q. s. Solve, tum adde Liquoris Ammoniæ fortissimi ad saturationem.—℞. Pigmenti Indici [*vulgo* Indigo], gr. iij.—Levigatur cum Aquæ Destillatæ, ʒi. et adde Carbonis Puri, gr. vi.—Pulveris Gummi Acaciæ, ʒi. Mix the whole of these ingredients together, and add a sufficient quantity of ammonia to form a bright mixture, and when a gentle heat has been applied to drive off the excess of ammonia, the fluid will be ready for use. He adds that "the combination may be more curious than chemical, but I have found that the copper exerts a great influence over the silver in preventing its liability to blot when written with. It is, however, necessary to observe, that although the proportion of ammonia should be sufficient to keep the fluid clear, yet there must be no uncombined excess, and I find the best method after the ingredients are mixed, is to put the fluid in a small evaporating dish over a lamp, and keep up a gentle heat for ten minutes, to disengage the free ammonia.'

Use of the Colutea Arborescens.—Dr. Colla attributes to this plant contra-stimulant purgative properties, and has derived advantage from its employment, especially in cases in which it was necessary to purge patients whose stomach were refractory to drastics, and whose constitutions were enfeebled, and when it was necessary not only to free the intestinal tube from its contents, but also to strengthen it. The analysis of the fresh leaves of the *colutea arborescens* gave albumen, a bitter substance of a resinous nature, tannin, malic acid, a yellow coloring matter, a green coloring matter (chlorophylle) a gummy substance, malate of lime, chlorides of calcium and potassium, and sulphate of lime. This plant readily yields many of its principles to water, at all temperatures; but the use of the leaves without heat is preferable, or, better still, the tincture arising from the lixiviation of the powder. The aqueous decoction of the leaves appears to be very active. The plant does not contain any alkaloid to which its powerfully bitter taste and cathartic action can be attributed; but there is a bitter principle, of a resinous nature, similar to that of rhubarb and other plants, to which this action is owing. The absence of alkaloid from the *colutea* makes this plant resemble senna, whose purgative action is not due to a vegetable alkali, but to a mixture of deliquescent salts, bitter resin, and coloring matters. Finally, the infusion and the aqueous tincture, made cold, contain the resinous principle, separated from the gummy matter, which accounts for the greater activity of these preparations.

New Treatment of Itch, by Dr. Dornbluth.—The patient must first, at night, cleanse the whole body by means of careful ablution with a warm solution of green soap; then rub with the following liniment:—℞. Black soap, 125 grammes.—Powdered root of white hellebore, 60 grammes.—Warm water, q. s.—M. and F. S. A. a mixture of syrupy consistence. This liniment is applied with the palm of the hand, or by means of a brush, and care should be taken to spread it over all the parts of the body which present the slightest traces of exanthemata, especially on the articulations of the four limbs, on the hips, the back, and the abdomen Moreover, the force of the friction ought to be proportioned to the degree of sensibility of the skin. As soon as the rubbed parts commence, after the second, third, or fourth application of the remedy, to redden and become the seat of a burning sensation, instead of the itching which was previously felt there, and when no more pimples are seen to appear there, the application of the liniment is ceased. The day after the last friction, the whole body is rubbed with 125 grammes of black soap, then carefully washed with warm water holding in solution the same quantity of the same soap. It is only necessary afterwards to give clean linen and fresh clothes; the old ones must be submitted, before being again used, to washing and disinfection with sulphurous acid gas, because, without this precaution, they might reproduce the disease. Very soon afterwards, the skin dries and scales off. In this way cure is obtained in six or eight days, without leaving any bad consequences. With this mode of treatment, there is no necessity for resorting to any internal administration of medicine: Dr. Dornbluth, who at first prescribed medicines to be taken internally, was ultimately convinced of their utter inutility. Dr. Dornbluth has cured about six hundred individuals of all ages, by following this topical treatment, and he regards it as preferable to all others for the following reasons:—1st. It certainly cures the itch in the shortest possible space of time, and without giving rise to any bad symptom. 2nd. It has the valuable advantage of not betraying, by its odour, the nature of a disease which it is always important to conceal; and in this respect it has a marked superiority over the sulphurous preparations, &c. 3rd. Finally, it has the advantage of being very cheap.

Ferruginous Preparations in various Affections.—Dr Pitschaft, of Baden, prescribes iron in the following form in the treatment of chlorosis:—℞. Klaproth's ethereal tincture of acetate of iron, 8 grammes.—Tincture of vanilla, 30 grammes.—Tincture of orange peel, 30 grammes. M. S. A. Twenty drops, in a teaspoonful of water, every three hours. During the use of this medicine, it is advisable continually to administer a tonic purgative composed of aloes and rhubarb. In some cases of cyanosis in adults, Dr. Pitschaft has employed, with much advantage and with great relief to the patients, the following mixture, but by continuing its use for a long time:—℞. Klaproth's ethereal tincture of acetate of iron, 15 grammes.—Tincture of digitalis purpurea, 8 grammes. M. S. A. Twenty drops every two hours in a teaspoonful of sugar and water. Moreover, the patients want to go every day to the water-closet, and it is advisable to watch them in this respect. The same practitioner considers carbonate of iron, associated with the extracts of bitter plants, one of the best medicines that can be employed in chlorosis; if the patients complain at the same time of very violent palpitations, it is as well to join with it small quantities of digitalis.

Hydrated Peroxide of Iron.—Mr. W. Proctor, jun., in the *American Journal of Pharmacy*, gives the following conclusions:—1. That hydrated peroxide of iron, even when kept under water, gradually decreases in its power of neutralizing arsenious acid.—2. That if kept in the form of a thick magma, it will retain its properties longer than when mixed with much water.—4. That this decrease in power is probably due to a change in the relative proportion of the oxide, and the water chemically combined with it, as well as to an alteration in its state of aggregation.—4 That from the experiments of Otfila, and others, the dry hydrated oxide possesses the power, to a considerable extent, of neutralising arsenious acid, and it should be used in the absence of the moist and recent preparation.—5. That hydrated peroxide of iron may be obtained in a state fit for use in ten or fifteen minutes, by using a solution of the persulphate of iron. And, lastly, that the recent oxide should be used in all cases where it is attainable, in preference to that long kept.

Diabetes Mellitus cured by Hydrochloric Acid.—(By Dr. Gennaro Festeggiano.)—A seaman, after remittent fever, with gastric and rheumatic complications, became affected with an increased flow of urine, which gradually assumed the character of Diabetes Mellitus. His urine was passed in great quantity, and had a sweet taste; he had a ravenous appetite, constant thirst, became thin, and had the other symptoms which usually attend that complaint. Dr. Festeggiano prescribed a drink acidulated with hydrochloric acid, to which small doses of ipecacuanha were added. At the end of eight days, the peculiar symptoms had notably diminished, the morbid characters of the urine had disappeared; and in a month the patient left the hospital cured.

Green Cataract.—M. Cuvier of Brussels' notices, that this form of cataract is often confounded with glaucoma, and no attempt is accordingly made to afford the patient relief. Out of eight cases affected with Green cataract, at the Ophthalmic Dispensary of Brussels, within his memory, seven had been restored to sight by the ordinary operation.

Cure of Ectropion by Nitrate of Silver.—M. Magne was consulted in the case of a child, where the use of the scalpel being interdicted by the parents, Dr. Magne was compelled to depend for the local treatment solely on caustic. This he applied with great decision to both the palpebral and ocular conjunctiva; and to combat the inflammation apprehended from this treatment, ordered free foot-baths, and compresses moisture with fresh elder flower-water, to be applied continually to the eye. The process of cauterisation was renewed daily for a fortnight, at the end of which period the granulation had disappeared, leaving only a few whitish eschars on the conjunctiva, and child was soon afterwards sent away for change of air. Three months afterwards M. Magne again saw his patient, and

their rutting season. Among these the ovarian vesicles are found to increase gradually in size during the interval between the rutting epochs; and they ultimately escape altogether at these epochs without congress of the male. The spontaneous detachment of the human ovum at the end of the menstrual epoch naturally renders that period the most favourable for impregnation, and readily yields a reason for the fact that conception is most commonly referred to that epoch by pregnant women. "Of 15 women (says Dr. R.) who specified accurately the period of their latest menstruation, as well as the dates of the connubial act, 5 evidently conceived from coitus taking place from two to four days previous to the period at which the catamenia were due. In 7, conception dated from coitus occurring two or three days after menstruation; in 2, it took place at the actual period of the catamenia; and in one only so long as ten days after the latter had disappeared. Considered with respect to her generative function, woman holds a place intermediate between rutting animals, which are capable of impregnation only at fixed seasons of the year, and those animals in which a coitus only is required to produce impregnation at any season. She, however, approaches much nearer in point of this analogy to the former class, her power of reproduction being infinitely the more active at her menstrual periods, to which the rutting time in brutes bears a strict physiological resemblance.

MEDICAL NEWS.

Royal Medico-Botanical Society, Jan. 25, Dr. Sigmond in the chair.—Mr. Foote, the senior secretary, read a paper by M. Guibourt on the Ceylon Moss, from which it appeared that it had been described and figured by Turner under the name of fucus lichenoides—by Agardh as the sphærococcus lichenoides—and by Lamaroux as the gigantina lichenoides. This moss, or alga, is in whitish, ramifying filaments, about three or four inches in length, and about the thickness of strong sewing thread. It appears to be cylindrical to the naked eye, but under the microscope it offers an unequal, and, as it were, nervous or reticulated surface. Its branches are either dichotomous, pediculated, or simply alternate. It has a slightly saltish savour, and is scarcely, if at all, soluble in cold water. Iodine colours it of a blackish-blue colour, mixed with a red tint; it therefore contains amylaceous matter. The Ceylon moss affords by boiling, an abundant nutritious jelly, well suited for invalids. The residue of the decoction may be employed as food; it may be prepared in the same manner as the leguminous vegetables, and is occasionally eaten raw. Such, in fact, is its principal use in the countries where it is indigenous. Some fine specimens of native medicinal plants were laid on the table by Dr. Houlton, among which was the prunus lauro-cerasus. With respect to this, Dr. Houlton observed, that a patient of his, who had been engaged for several hours collecting it, was, after a time, seized with all the symptoms of poisoning by prussic acid, from which he recovered by the use of medicinal and dietetic stimulants.

Ethnological Society.—A meeting of gentlemen engaged in scientific pursuits, was convened on Tuesday evening at Dr. Hodgkin's, in Lower Brook Street, for the purpose of forming an Ethnological Society, on purely scientific principles, for investigating the natural history of civilised, as well as uncivilised man. Mr. Greenough presided on the occasion, and Mr. Richard King acted as the secretary. An essay by Dr. Ernest Dieffenbach, pointing out the advantages of such a society, and the course that ought to be pursued in carrying out its objects, was first read, after which Dr. Granville moved—that it was expedient that the Ethnological Society be formed. Dr. Hodgkin seconded the motion, which was carried unanimously. Dr. Hodgkin, a Mr. Greenough, and Mr. Richard King were appointed a sub-committee, with power to add to their number, to take into consideration the bye-laws and regulations necessary to be adopted, and to report thereon at an future meeting. The objects of the society would be to collect, register, and digest, and to print for the use of the members, and the public at large, in a cheap form, and at certain intervals, such new, interesting, and useful facts as the society may from time to time acquire; to accumulate gradually a museum illustrative of the varieties of mankind, and of the arts of uncivilised life; a library of the best books on ethnology, also, voyages and travels, as well as all such documents and materials as may convey the best information to persons intending to visit foreign countries—it being of the greatest utility to those who are about to travel to be aware of what has been already done, and what is still wanting in the countries they may intend to visit;—to render pecuniary assistance, when the funds will permit, to such travellers as may require it, in order to facilitate this particular branch of their research; and to correspond with similar societies that may be established in different parts of the world, with foreigners engaged in ethnological pursuits, and with the most intelligent British residents in the various remote settlements of the empire. The admission fee is proposed to be £3, and the annual subscription, £2, or both may be compounded for by one payment of £15; but the first 200 members are to be exempt from the payment of the admission fee, and their composition will be consequently reduced to £12. When 200 gentlemen have announced their intention of becoming members, a meeting will be called for the purpose of electing the officers of the society, and then, but not before, will the subscriptions become due. In the meantime, those who are already enrolled as members are at work reading papers, publishing transactions, and collecting materials for a museum.

Medical Reform.—In the House of Commons, on Tuesday evening, February 7, Mr F. Maule wished to ask the Right Honourable Baronet whether it was his intention to bring forward at an early period of the present session any measure of Medical Reform? Sir J Graham said the honourable gentleman who had asked him the question must be aware of the extreme difficulty of the subject; he might, however, say that he had given every attention to it. But a preliminary step, as it appeared to him, to every measure of Medical Reform was—and he had stated the same last session—a new adjustment of the charters of incorporation of the two Colleges of Surgeons and Physicians. The Government had for some time been in communication with the principals of those Colleges, and had proposed certain alterations for their consideration, which alterations had been discussed; and he hoped in a very short time to be in a condition to submit to Parliament a measure affecting the charters of incorporations of the two Colleges in London, to which he had referred; and, together with that measure, it was his intention to bring in another Bill affecting the medical profession generally throughout the United Kingdom. (The Home Secretary seems to be growing less confident as he gets longer acquainted with the task he has undertaken, and it is, even now, very, *very* possible that this Session will see the wreck of another Medical Statesman without anything more being done for our profession. The truth is, that Sir James is too careful of the vested interests: his weak fearfulness of their opposition threatens to make his Bill unworthy of a Statesman, and worthless of the profession's acceptance. In his position he has the power of doing what Messrs. Hawes and Warburton had not, of making Colleges bend to right principles, not right principles to the Colleges. Has he greatness enough to exercise it?)

ROYAL COLLEGE OF SURGEONS, LONDON.

List of Gentlemen admitted Members on Friday, Feb. 3, 1843:—

R. D. Edgecombe, G. Beddow, J. Morrison, E. J. Shearmaw, G. Johnson, J. Vincent, T. W. Smith, C. A. Aikin, M. Macnamara, D. Ross.

A GENTLEMAN, M. R. C. S. L., and late House Surgeon to two of the London Hospitals, is desirous of offering his services for a few months gratuitously to some medical gentleman in the country, who, through illness or otherwise, might feel disposed to vacate, or only partially to superintend his practice.—Apply by letter to A. Z., at Mr. Mellonish's, No. 9, Bedford Street, Bedford Row, London.

JEREMIE'S SEDATIVE SOLUTION OF OPIUM,

First prepared at Patna, in Bengal.

THE great merit of this Preparation is its peculiar freedom from the noxious properties of Opium, and has, therefore, been found available in cases where other forms have been inadmissible, from its not disturbing the nervous system. The rest procured through its instrumentality is divested of the heaviness and stupor usually the effect of Opium, and the patient, though taking it continuously, is left in free possession of his faculties. It has for several years been supplied to the H. C. Dispensary, by order of the Medical Board of Bengal, from its being found to meet Cholera in India beyond any remedy that had been applied to that fatal disease. Cap. sin Jeremie, from whose formula it is prepared, is well known to scientific persons as the talented improver of the Patna Opium. It will be found not to constipate the bowels, and to keep any time in any climate. It is exceedingly powerful in Cough, especially Consumptive Cough, wherein it may have found it a great blessing, in Influenza, Gout, Tic Douloureux, Cholera, and Bowel Complaints, Rheumatism, and Cancers, in Accouchement, and all cases where Opium may be desirable. The exceedingly innocuous properties of the preparation have been proved by infants of a few weeks old having taken it without any cerebral disturbance. The testimonials of many talented Gentlemen of the Profession are on the envelope of the bottles, a few only of the names are given here of those who have approved, viz.:

Medical Board of Bengal.
Sir Phillip Crampton.
Sir David Dixon, Physician to the Royal Naval Hospital, Plymouth.
Dr. Cookworthy, Physician to Plymouth Dispensary.
Dr. Watson, Physician to Middlesex Hospital, London.
J. G. Perry, Surgeon, Foundling Hospital, London.
Dr. Rae, Royal Hospital, Chatham.
J. R. Martin, Esq. (late of Calcutta) Grosvenor Street, London.
Dr. Jackson, late Apothecary-General, Bengal.
Dr. Graves, Meath Hospital, Dublin.
Dr. Hannay, Professor of Physic, Glasgow, and Physician to the Royal Infirmary.
Dr. Yonge, } South Devon Hospital.
Dr. Hingston, }

Prepared only by Francis Lean, 27, George Street, Plymouth, whose signature is WRITTEN in red ink, on the pound and half-pound bottles put up for dispensing, as well as on the envelopes of the bottles sold at 2s. 9d., 4s. 6d., and 11s., accompanied by the stamp of Barclay and Sons, Farringdon-street, London, Wholesale Agents. Agents abroad, Scott, Thompson, and Co., Calcutta; Binney and Co., Madras; Treacher and Co., Bombay; Menzies and Co., Jamaica; W. Blake, Montreal, for the Canadas. Sold also by all respectable Druggists.

RHEUMATISM.—Lieutenant-Colonel Stisted, of the Third Regiment of Light Dragoons, informs those who have Rheumatism, that he has worn Coles's Medicated Bands four months, that they have relieved him from a state of suffering scarcely to be described. The Colonel, to evince his gratitude to Mr. Coles, has authorised him to make use of his name in any way he thinks proper.

No. 4, Craven Street, Strand, April 22, 1837.

There are about fifty generals, admirals, and noblemen, who wear these Medicated Bands with equal satisfaction.

RUPTURES.

Colonel Francklin informs those who have Ruptures, that he has been wearing trusses 30 years, and he never met with but one individual who was master of the complaint. He has likewise an elder brother, a Colonel in the Hon. East India Company's service, who has worn a similar kind of Truss for many years, who can testify the same. Mr. Coles, of Charing Cross, is the individual alluded to.—Blackheath, July 10, 1832.

Two Generals assert that they have sent Mr. Coles upwards of 300 ruptured persons for trusses.

"Mr. Coles has worn Trusses twenty-five years, and during twenty months he has worn his Truss night and day. Read 'Coles on Rupture.'" Manufactory, 3, Charing-cross. Read "Coles on Rheumatism."

INVALIDS REMOVED WITH EASE AND EXPEDITION. HARMAN'S PATENT BED CARRIAGE is so peculiarly constructed that Invalids, however severely afflicted, may be removed from their beds without change of position, or increase of suffering, and conveyed, together with attendants, to any distance, without fatigue. May be seen, and hired for any journey, at S. Willoughby's, Coachmaker, 1, John Street, Oxford Street.

CLENDON ON THE EXTRACTION OF TEETH.

Just Published, with Plates. Price 3s. 6d. Cloth,

OBSERVATIONS on the Extraction of Teeth, by I. Chitty Clendon, Surgeon-Dentist.
S. Highley, Fleet Street.

BRIGHT'S NUTRITIOUS FARINA.—This new VEGETABLE Preparation is strongly recommended by the highest medical testimony, and by ROYAL and NOBLE patronage as the best DIET for INVALIDS, INFANTS and persons of impaired digestive powers. No article ever yet offered to the public contains the same amount of nourishment, is so economical, so easily prepared, or so peculiarly adapted to the delicate and dyspeptic. Sold in canisters by every respectable druggist, where also may be obtained,

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23	1 0 10	1 1 11	2 3 3	39	1 8 5	1 9 10	3 2 2	55	2 8 8	3 0 4	5 5 0
24	1 0 11	1 2 0	2 4 2	40	1 8 9	1 10 4	3 3 8	56	2 12 4	3 4 4	5 9 0
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26	1 1 2	1 2 6	2 6 2	42	1 9 9	1 11 9	3 7 0	58	3 0 9	3 12 8	5 17 6
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28	1 1 4	1 3 2	2 8 2	44	1 10 10	1 13 7	3 11 0	60	3 10 6	4 2 3	6 7 2
29	1 1 9	1 3 7	2 9 3	45	1 12 2	1 14 8	3 13 0	61	3 14 0	4 7 5	6 12 4
30	1 2 1	1 4 1	2 10 4	46	1 12 6	1 16 0	3 15 6	62	3 17 2	4 13 5	6 17 9
31	1 3 0	1 4 6	2 11 6	47	1 13 5	1 17 8	3 18 0	63	4 1 4	5 0 4	7 3 7
32	1 3 8	1 5 3	2 12 8	48	1 14 4	1 19 6	4 1 0	64	4 6 0	5 8 0	7 9 10
33	1 4 3	1 6 0	2 13 11	49	1 15 4	2 1 5	4 4 0	65	1 13 6	4 16 3	7 16 9
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No. 178. Vol. VII. LONDON, SATURDAY, FEBRUARY 18, 1843. PRICE FOURPENCE, Stamped Edition, 5d.

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SUMMARY.

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By C. J. B. WILLIAMS, M.D., F.R.S., Professor of the Practice of Medicine, and of Clinical Medicine, at University College.

I have now to notice an important phenomenon resulting from percussion that I did not mention yesterday, and that is, sound proceeding from the deep-seated parts. I have mentioned that sounds on percussion may be elicited either from the superficial parts or the dilated parts in some degree, and I mentioned the different sounds that arise, and that may be thus elicited, by deep seated percussion in the upper parts of the chest. But in the upper parts of the chest, you will observe there are constituents of sounds that I have not adverted to,—the large tubes themselves.

Now it appears that a certain amount of tubular sound is given in a state of health, by forcible percussion, if it is not mixed up with an unusual pulmonary sound, which tends to give a great resonance to those parts of the chest. If the pulmonary tissue is of such depth and thickness as to be adapted to transmit the stroke to the interior of the tubes, you will not, if you listen, find a tubular sound on percussion. But if you come to the trachea, and make the percussion there, you will get a tubular sound. This sound varies according to the length of the tubes. It happens in some cases of disease in the upper parts of the lungs, especially towards the roots, that they do transmit the sound to the tubes, and under these circumstances, you find a tubular sound on percussion. This completes the whole history of the percussion sounds of the chest. The tubular stroke sound is produced in cases of disease, where the pulmonary tissue is so far condensed as to transmit that stroke from the exterior to the tubes, or where the tubes are pushed into closer contact with the walls of the chest, or when the tubes themselves become expanded by irritation or by dilatation, or by the formation of cavities communicating within them; where this is the case, the sounds are more or less of a tubular character, and what is called the *crack-pot* sound is produced by the percussion in the tubes or cavity communicating with the tubes. The percussion in that case gives not only the sound of the tube, but likewise a little tinkling or quivering sound, which resembles not only a pot or a jar sound when struck, but a crack pot sound, with the addition of a certain jar or tinnitus, or bubbling through it.

We now proceed to the next class of sounds, those produced by the passage of the air to and fro, or expiration and inspiration. I shall not be too minute in explanation of these signs and the varieties of auscultation, because I have detailed them fully in the works I have written on this subject in the last edition of the "Pathology and diagnosis of diseases of the chest." I shall only here refer to those points which require observation in reply to some able writers who have treated of this subject.

Now you will find that I have given a certain definition of the sounds produced by the passage of the air, that is motion resisted. Motion alone does not constitute sound, but there must be resistance. And so with regard to the motion of the heart; the motion of the air to and fro, gives sound in proportion to the amount and the velocity of the air, and the amount of resistance given to it. Accordingly, in the sound produced by inspiration, the air being received into the mouth in the act of inspiration, passes with considerable force through the tracheal cavity, enters the larynx, goes down to the trachea, and passes down to the ultimate divisions of the bronchi. Now the air meets with a certain degree of resistance from the sides and angles of the tubes and various prominences which it meets with in its course. If the motion of the air is forcible, the passage of the air produces sounds. Accordingly, we have sounds characteristic of the parts through or over which the air passes. We have sounds produced by the passage of the air in the nostrils, and in the upper part of the head. There is the palatal sound, from the passage of the air against a sort of palate, evident in the snorting of persons during sleep. There is likewise the laringeal sound, quite distinct, and highly characteristic; you hear it by applying your ear to the stethoscope over the larynx. Then the air passes down with considerable force, and carries sound with it through the air tubes, and therefore there are various sounds produced at the upper part of the air passages. They are heard likewise in inspiration as the air passes down the trachea over the larger bronchi. The sounds become more tubular over the smaller bronchi, and when the air gets into the smaller ramifications of the bronchi, the sound produced give the idea of concentrated air in motion with considerable force. It is more concentrated in one body than when it becomes expanded over a range, because the tubes and their divisions are enlarged in area, and hence there is a greater velocity in the passage of the air through the trachea, than the larger divisions of the bronchi. This is the reason why the sound is louder and more intense in this situation than it is over the surface of the lung. But where the tubes plunge and divide into the tissue of the lung, there the resistance met with is still somewhat deadened, though there is enough to produce sound. When the air becomes diffused over a greater extent, and enters into the vesicular texture, it gives rise to a diffused dull sound, of a more agreeable character, which is called vesicular or respiratory. The sound in this case is somewhat like the passage of a breeze through the leaves of trees, and its peculiar character is that it has not the sharpness or harshness of the concentrated tubular sound. For a more correct description and better understanding of these sounds, I must refer you to the direct impression of the senses, which will give you a far better idea than words can express. In fact, words do not properly convey any representation of the senses.

We now consider the air passing out. In this case there is a little modification in the sound; it is not of the same kind as it is in the air passing in. After the lungs are expanded by air, there is a passive state, and the motion commences in a reverse direction. But the motion commencing has but little force; it is a thing beginning to move. It has little impulse or momentum, and clearly has not the elements of sound, or the element of sound and motion is wanting. Resistance is the first effort, and this is created by the air passing through the minute vessels into the tubes. The tubes are funnel shaped, and there is no angle to oppose them whatever. Hence when you listen to the chest in the act of expiration there is a little faint sound, but it is trifling to the full and equal sound in inspiration. It is different when the air gets into the tubes. It acquires in that case greater momentum or continuence of this motion, and acquires greater velocity also; but as I have mentioned the area of the tubes is considerably smaller than the area of the vesicles; and the area of the large tubes is considerably smaller than the area of the small tubes. There is a progressive increase of velocity as the area passes from one to the other, and with the increase of motion there is an increase of sound. A certain degree of reverberation is produced by the passage of the air along the sides of any tube, and more or less motion will be produced.

Now there is one principle we have not yet clearly seen. You hear the sound on inspiration fully all over the lung, because the sound is produced all over the lung, not only in the tubes, but in the vesicular texture itself. But we hear the sound of expiration very indistinctly over the lung, and it is only produced in particular parts—internal parts. How is it that we do not hear the sound of the tubes through the vesicular texture? For this reason—that it is an exceedingly bad conductor of sound. The texture of the lungs consists of a succession of bodies, differing very much in density from each other; and differing so as to impede the transmission of sound, there will be a certain amount of equality of tension given to them to transmit the sound just as soft bodies are dampers of sound.

Now where sound is produced, its propagation is owing more to the yielding of the texture, than to the transmitting of the vibrations. This is the reason why the sound of inspiration is purely vesicular over the greater part of the lung, as also why in expiration there is but a slight sound over the greater part of the vesicular texture. The sound transmitted to the tubes is not transmitted to the interior. When you come to the bronchi near the axilla, you have the air in the tubes so intense as to pass across the vesicular texture, and you hear the sound of tubular inspiration. It is louder and more concentrated, because there is no intervening texture to cut off the sound.

Now all these principles are applicable to disease. Suppose a particular texture is consolidated or is compressed by liquid effusion, the result will be more sound than is given by the vesicular texture. This very compression of texture renders the lung a good conductor of sound. It was before a bad conductor on account of the porosity of its substance, which is very membranous and very flaccid, giving a dead sound. But now the sound is more concentrated from the medium of the sound being more uniform, and being in a condition capable of transmitting sound. In expiration you will have not only the sound of the tubes in the region examined, but you may have the sound transmitted to the other regions by the concentrated texture. It is transmitted from the interior to the exterior.

Now let us consider a few things in respect to unhealthy sound. Loudness depends on velocity, and the amount of resistance. Accordingly, quick breathing and rapid breathing give the greatest amount of sound. On the other hand, low or long breathing gives little sound, and where you have difficulty in hearing the sound on inspiration, you may render it more audible by desiring the patient to take a quick breath. A cough does the same thing. In children the respiration is naturally both more forcible and more energetic or rapid, like most other movements of children, and this is one reason why respiration is naturally louder in children. The texture of the lung is more dense. There is a greater proportion of solid contents in the texture of the lungs of young subjects than in old persons, and the superficial parts of the lung are in fact denser. And this is the reason why the sounds there are transmitted, and the sound is so much more of a tubular character. There is a greater sharpness in it and in the neighbourhood of the tubes, and it is more-

[illegible] tinct. The tubular phenomena are altogether more developed in children than in adults.

Now disease sometimes produces a somewhat similar effect at one part of the lung. We find in children that if anything incapacitates a large portion of the lung, it will acquire increased exertion and increased rapidity. Thus it is when one lung, or a large portion of one lung, is diseased; there is caused supplementary respiration, a term given to it by Dr. Andrew. Morbid varieties, consisting of different degrees of loudness and intensity in the character of the respiration are induced in different parts of the chest. There may be many varieties of the respiratory murmur or breath sound all over the chest, without there being any [illegible], and therefore with regard to the first sound, or with regard to the stroke on percussion, the chief standard is that of comparison of the one side with the other. Then there are varieties in the degree of the respiration. For instance, the sound of inspiration is impaired by those diseases that obstruct the tubes, preventing the access of the air through the texture. It is likewise impaired by compression of the texture, as in liquid effusion. Then there is unusual rigidity of the texture, a want of elasticity, a want of obedience to the motions of the chest, which prevents the passage of the air in and out, to and fro, regularly, as in the ordinary act of respiration. Again, this differs not only in degree but in kind, and thus you may have varieties of sharp and soft respiration, the sharp sound somewhat approaching to the tubular character, or a soft and diffused sound which is naturally deep.

The varieties of tubular respiration may be transmitted to the exterior, and give rise to different signs. There is a cavernous variety arising from the communication of the air with a cavity, instead of dividing in the usual way. We find this taking place near the apex of the lung in phthisis. There are sounds depending on the size of the cavity, sometimes by the passage of the air in and out of the cavity, and sometimes across the mouth of the cavity. Great varieties may be presented by the condition of the lung when diseased. Under these circumstances, when there is cavernous respiration or tubular respiration, you [illegible] that the sound is produced not only in inspiration, but more or less in expiration. This is [illegible] a constant phenomenon. Now, just [illegible] the reason why you have not always the [illegible] constant phenomena in cavernous respiration and in bronchial respiration. The sound [illegible] by the passage of the air into a [illegible] from a resonance taking place [illegible]. The sound in this case is [illegible] blowing into a decanter of water. On the other hand, there may be a cavity, across the [illegible] of which the air blows. It often takes [illegible] that a cavity is formed in the neighbourhood [illegible] and the air merely blows across [illegible] it passes downwards. Every [illegible] is produced, and the sounds [illegible] may be produced by the [illegible] mouth of a cavity in [illegible] and accordingly in [illegible] of the air resounding [illegible].

[illegible] are varieties in the respiration [illegible] may be prolonged [illegible] the other; or it may [illegible] side, while it is [illegible]. The inspiratory sound lasts [illegible] the motion of inspiration. But in some [illegible] you find on listening to the chest that the [illegible] is stopped short, instead of going to the full [illegible] respiration. It is stopped short, as if [illegible] it from going to its full [illegible] arises from various causes of disease. [illegible] instance, when the bronchi are very [illegible] with mucus; [illegible] is, however, [illegible] the result of compression of the [illegible] effusion. Sometimes it arises from [illegible]. The irregular prolongation [illegible] of the air tubes, as in [illegible], where the air cells [illegible] however other they do [illegible] with freedom. This [illegible] respiration. In inspiration [illegible] in bronchitis and

in expiration most remarkably in emphysema. Sometimes it has other things added to it. Not merely are the sounds of respiration modified, but new sounds are added, sometimes of a totally new character. Their principal character generally is dependent upon an unnaturally increased resistance to the passage of the air through the tubes and into the vesicular structure. Increased resistance to the passage of the air will produce new vibrations, which are rendered in some degree universal: it is soniferous, and altogether a peculiar sound.

This peculiar new sound is referable to various causes. For instance, it may be produced by a swelling on the trachea, by a tumour pressing on it, so as to leave the passage very narrow. This even will cause an increased resistance, and that increased resistance, when increased to a considerable degree, causes new sounds. There is not only a blowing sound where the passage of the air is free, but there is a musical sound. There are variations of sound produced by different rhonchi—the mucous rhonchi. There may be a clot of mucus across the angle of the tube, and as the air passes, it receives a jerk, and is driven into a sonorous vibration. There are the sonorous rhonchi, the snorting, or dry mucous rhonchi. There are other varieties that are produced by the passage of the air through a liquid; the air passing through with considerable rapidity produces bubbles, the breaking of which bubbles causes a new sound, a crepitation, or a bubbling sound, more of a crackling character in the smaller tubes, and a bubbling in the larger ones. There is the whistling, which is one of the dry rhonchi. This takes place chiefly in the small tubes. Also in the large tubes, where the passage is narrow. This whistling implies a very narrow orifice. There is a condition, again, that is indicative of serious disease; that is, where the loud sonorous rhonchus is hardly heard. This depends on a tumour external to and compressing the tube, as in obstruction from mucus or a thickening of the passage; and where it remains permanent, it may imply something serious.

There are other signs of disease independently of these, to which we should direct our attention. For instance, compression on the aorta by one of the large bronchi, and a great enlargement of the bronchial gland. The rhonchi are very often unnatural and vesicular, for this very obvious reason; inasmuch as there is a bronchial tumour, there will be a certain degree of obstruction to the passage of the air, and consequently the act of vesicular respiration will be very much impaired. Again, some of the varieties of rhonchi owe their presence and their character to their being in the finer bronchi instead of the larger and middle-sized ones. Not in the vesicular texture entirely, but in the tubes leading to them. This depends on the amount of the liquid. Where it is [illegible], and it does not amount to a crackling, it is subcrepitant; and where it is crackling, it is crepitant. The cavernous sound consists of some other sound being associated with the blowing sound in respiration, and it depends on the character of liquid in the seat of the respiration. Very often there is musical sound and the mucous crepitant together. This is a very common kind of mucous rhonchus. The dry mucous, the crepitant and the subcrepitant, is sometimes produced; it varies very much, and has been called the muco-crepitant rhonchus.

Now the bubbling rhonchi are rather more important. The moist rhonchi are more important than the sonorous, for this reason that the presence of the liquid in the texture or in the tubes will more interfere with respiration than the obstruction producing the sonorous rhonchus. In fact, it may arise from a partial obstruction, whereas the mucous and the other rhonchi, imply a bubbling in a great many tubes; and accordingly you may judge that the bubbling rhonchi are important in proportion to their extent, and to the amount of infringement on the respiratory function.

Now a few words as to the subject of the voice. Sounds of the voice are transmitted through the chest. As the air passing along produces sounds in the vesicular texture and then traverses the tubes, so the sound of the voice is produced in the tubes in various ways. Let us start from the loud and open voice. If you apply your ear you will hear the voice in its greatest character; the whole of the trachea is occupied in a strong degree, and the larger tubes especially. You have in this case natural bronchophony, like to the voice in the interior, in the region of the larynx and the trachea, over the sub-divisions of the large tubes. When we come to the texture of the lung, you have a condition greatly different. The tubes divide and subdivide, and diffuse an amount of resonance by that subdivision which extends all over the texture of the lung. The lung, as I said before, is a bad conductor of sound, and not only is it so, but it is a stifler of sound, a sound damper. This is a principle natural philosophers have lost sight of in a great degree, that a body may not only be a bad conductor of sound, but may actually intercept sound, so that it is not only not transmitted, but damped and cut off. In some parts there are particular notes of the voice. The sounds may be transmitted over the chest. Take the tubular sound. There is the natural sound of the voice or tracheophony, which is heard also in the back of the neck, and is transmitted pretty strongly. When it is transmitted into the texture of the lung, and is transmitted over the larger tubes, you hear natural bronchophony. You hear it in the axilla, and also in the intercostal regions, and then there is a resemblance between the sounds of the two sides. You hear the sound of natural bronchophony more on the right side than on the left. Besides these sounds there is pectoral fremitus. The sound in this case is diffused more forcibly over the whole chest, arising from the air being so strong as to overcome any difficulty offered by the vesicular texture. When the sound is very strong and cannot be muffled, it is transmitted into the interior, and is heard in the form of diffused resonance. It may be both heard and felt, and you find that the sound causes the interior to vibrate with your ear.

Now with respect to the explanations that have been adduced, I have given those of Laennec. Dr. Schomel asserts that the morbid sounds produced in the tubes, and the natural sounds of the bronchial voice arise from what he calls consonance. It is very well known to musicians that when stringed instruments are tuned to a certain key, and you strike a corresponding cord in another instrument, that will vibrate and give a respondent note, according to the capacity of the body to vibrate. Hence Dr. Schomel says that the reason why you do not hear bronchophony in all cases is, because there is no consonance. If this were the case, we should hear certain sounds given in diseased bronchophony, and certain sounds given with regard to natural bronchophony. I shall take up the other varieties of these sounds tomorrow.

Cure of Epilepsy.—Dr. De Losch, of Brussels, records a case of great interest. The patient was a young lady, 11 years of age, and of a nervous and very excitable temperament, in whom epileptic fits became frequent, after an accident she had met with. Antiphlogistics, anthelmintics, sedatives of all kinds, change of air and scene, emetics, oxide of zinc, cyanuret of iron, assafœtida, indigo, nitrate of silver, &c., had been tried without success, when the Doctor tried ammoniacal sulphate of copper, of which he ordered one-sixth of a grain three times a-day, to be followed by a glass of old Malaga wine. Three days now elapsed without a fit, but, on the fourth, one of much violence occurred. The dose of the remedy was now increased to one-fourth of a grain, and no subsequent fits took place. Some vertigo was experienced for a time, but this disappeared gradually, and the young lady has enjoyed perfect health for the last two years. The renal secretion was somewhat augmented, and the urine exhaled an ammoniacal odour while the patient was under the influence of the ammonio-sulphate, but no other function underwent the least disturbance.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c., &c.

(LECTURE VII., Delivered December 16, 1849.)

Gentlemen, I propose to begin this lecture by referring to the subject of congestion of the brain, and its symptoms,—apoplexy; in order that I may mention one or two facts to you which are full of interest. In the first place, I may venture to say that the purest case of apoplexy, arising from congestion within the brain, is that which follows a violent attack of epilepsy, and I do this, that we may have a fair view of what congestion will produce. For in epilepsy, in the majority of cases, you may be perfectly sure that congestion is quite pure if it is accompanied by anything like effusion.

The first remark I have to make is, that congestion may go so far as for a moment to affect the excito-motor system, so as to produce a little difficulty in swallowing. I want, in the first place, to mention a very interesting fact. I was called a short time ago (three or four years) to see a patient labouring under that violent degree of apoplexy following epilepsy, to which I am now alluding. After examining the case, I adopted these measures:—I took some of the coldest water I could get, and dashed that cold water in the face of the patient. The object of this was to excite the muscles of respiration. I then placed the patient perfectly upright, and took blood until a little impression was made on the whole system. I repeated the experiment of dashing the cold water on the face, but all that we could do had not the least effect. This is, therefore, an interesting case, as giving you a diagnostic of the violence of the disease; and the conclusion to which we come is this, that in the most violent cases of apoplexy from congestion of the brain,—those cases in which the respiration is affected, and the swallowing is affected, if you dash cold water on the face, it is most probable you will produce no effect whatever, and it may pass in your mind for a very severe case. Here you have a measure of the case, and it is only necessary throughout our lecture to determine what cases are so very formidable with regard to the prognosis, and the violence of the affection.

Another fact I want to mention is this, that I believe, in many cases of pure congestion of the brain, the patient dies because the respiration is imperfect. You observe in these violent cases the respiration is stertorous; and when it is so, you may be sure that it is more or less imperfect. In a violent attack of epilepsy, the respiration is first of all stertorous, because the excito-motor system has been involved in the disease. The next thing that follows, is the affection of what may be called the ganglionic system; and the way in which I would describe this, will be by a reference to the experiment of an animal with the pneumo-gastric nerve divided; and even the lungs become suffused with mucus, so that there is an obstruction in the respiratory function as well as stertorous breathing.

Now in these cases there is first a question, whether you will use any kind of relief beyond what is most common? Suppose you have such a case, and it is distinctly (from the absence of all paralysis)—distinctly a case of congestion of that kind which follows epilepsy. Some of these cases are treated entirely on the principle of congestion of the brain, where even impediment is offered to the respiration by the counter pressure of the congested brain on the medulla oblongata itself. Suppose you bleed, and adopt every measure to relieve the patient, and yet the patient remains in a condition very likely to prove fatal. There is, you will recollect, the subsequent state of sinking. The question is, whether you may do anything more?

Now I beg to mention one of the most interesting cases, I think, on surgical record. The case was treated by Mr. Sampson, of Salisbury. The patient was brought to the hospital attacked with epilepsy. Every means were adopted to relieve him, but still he remained comatose, and affected with stertorous breathing. "At this period," says Mr. Sampson, "it occurred to me, that the comatose state in which he lay might not arise from apoplexy, but from that state of the brain arising from that organ being supplied with blood not duly oxygenated; the breathing had a shrill tone, and it took place with extreme difficulty, and there was an extreme state of collapse, and this fact would account for the paralysed state of the eighth pair of nerves. I appealed to my colleagues, and strongly urged a trial of the operation of tracheotomy; for I could not but conceive, that if this mechanical operation was carried on for a time, the blood might regain its proper stimulant quality, and restore the energy of the brain and the nervous system. On their consent being given, the operation was performed. The obstruction of the veins about the head and neck caused an obstruction to the flow of blood." Here you observe a very important thing, that obstruction raised up an antagonistic power against any remedies you might apply to subdue the state of congestion of the brain, therefore the case was not one of mere defective respiration, but one in which there was an impediment to the reflux of the blood from the brain. He goes on to say that the violent condition of the respiratory efforts ceased, and in about half an hour from the performance of the operation the circulation of the blood was completely established. I believe that man would infallibly have died of congestion of the brain; at any rate, from that comatose condition which impeded the respiration, and that impeded the reflux of the blood from the head, but for this kind of operation performed by Mr. Sampson. Tracheotomy was performed, and the respiration became comparatively easy, and the reflux of blood from the brain comparatively free, and the patient recovered.

I do not suggest this in doubtful cases of apoplexy. I do think that patients ought to recover from apoplexy following epilepsy, without having recourse to tracheotomy. I have seen many cases of apoplexy following epilepsy, accompanied by a more than usual congested state of the brain, followed by violent convulsions. Here, therefore, I have made up my mind not to let a patient die without performing this operation of Mr. Sampson's. I would do the best I could in that manner, by relieving the congestion of the brain, and by causing a free flow of blood and air to the lung. That is the second remark I have to make on this subject, and which I give to supply the several defects left at my last lecture.

Now I am going to mention another fact which I think will be exceedingly interesting to you. I need hardly have recourse again to that state of apoplexy or congestion of the brain resulting from the violent struggles of epilepsy. In such a case, the larynx is closed, whilst the violent efforts of respiration, and of the whole muscles of the body, drive the blood to the head, and produce a temporary congested state of the brain, and temporary apoplexy. It is just possible that rupture may take place within the brain, and therefore, though I regard such a case as pure apoplexy, there may be an exception to such a rule as this. The reason I conclude that there may be rupture of the vessel within the brain is this, that sometimes there is actually a rupture and an escape of blood from the vessels in the skin on the face itself. I have a little sketch of a case which is remarkable for the spots upon the whole surface of the face. These spots are slightly ecchymatose, and come on under three circumstances. One is violent epilepsy; another, the violent efforts of parturition; and the third, violent efforts of vomiting. My object is to show what takes place in epilepsy. You will observe very minute ecchymatose spots which do not disappear under the pressure of the finger. I some time ago, was called to see a person of high rank who had an attack of some kind or other; he lived in St. James's-square. The question came to be, whether it was an attack of apoplexy in the usual acceptation of that term, or whether the patient had a fit of epilepsy? In the first place, before I saw him, he had entirely recovered from the state of coma in which he had been carried home. When I came to examine him, there was not the slightest paralysis. Here are two circumstances which led to the idea, not so much that there was apoplexy after rupture, but that there was something else. I observed his peculiar habit, and that his forehead was affected with ecchymatose spots of blood which would not disappear under the pressure of the finger, and I concluded that there had been a violent convulsion. I knew that violent convulsion did not accompany apoplexy, especially such a case as that which must have soon subsided. I gave it as my opinion that there was epilepsy, and so it proved, for there were subsequent attacks of epilepsy. These are the three points to which I wanted to draw your attention, and to supply the defects of my last lecture.

There is another point I mentioned at that lecture, but which I did not illustrate by any plate, or by any drawing. It is the case of a clot between the cerebrum and the medulla oblongata. You will recollect the case was one in which a person died in an instant from an attack of hemiplegia. In a case of this kind apoplexy is general, and paralysis is general; and all the functions cease in a moment. Well, that is one of the cases in which we may absolutely have sudden death. When anything interrupts the circulation of the blood and produces death, it may be called sudden and instantaneous.

Now the next subject I wish to bring before you, is the subject of local and partial diseases of the brain, and for the most part tumour at the base of the brain, and you will have here various disorders of this kind. In the first place, there is the influence of a tuberculous tumour at the base of the brain, or tumours variously situated; and these tumours produce their effect by irritating or compressing the brain. Now these diseases are characterised by pain, more or less. You have irritation of the brain attended with a derangement of the cerebral system. You have compression of the brain attended with coma, but more frequently a state of things different from this, which is characterised by compression of some of those nerves passing along the base of the brain.

I may here mention to you the case of Dr. Wollaston. He died of such a tumour as this, situated at the base of the brain. He lost part of the sphere of vision, and he lost more or less of the motions of the eye. Like a philosopher, just as the disease pursued its progress, so did he say—"now this part has been compressed, and now that." He was attended by Sir Benjamin Brodie. For further details of the case, you may refer to Dr. Holland's recent classical work—Medical Notes—the second edition, under the head of "The brain is a double organ." This case is merely an illustration of tumours at the base of the brain, which show themselves by pressing on the organs that lead to the senses, and that, more or less, impede the functions of the senses.

If there is a tumour in a certain locality, you can easily imagine that it will press on the optic nerve, or in another locality on the olfactory nerve, and that if in a lateral situation, it may affect the sense of hearing, and, if that situation is further back, it induces some of those sudden cases of hemiplegia that are produced by compression on the medulla oblongata. Some of those cases are attended with spasmodic affections, but I want particularly at this moment just to allude to a case in which you have what has been supposed to be hemiplegia arising from a state of ossification of some of the membranes of the brain. I have seen a portion of ossified matter at the pharynx, and I have seen it at various parts of the membranes of the brain which have been affected by hemiplegia, and which have been supposed to be the cause of hemiplegia by irritating the substance of the brain itself. But how, gentlemen, shall we reconcile this idea with the fact that no irritation of the substance of the brain will produce spasmodic action? In fact, there are many facts which seem literally to contradict any such opinion as this; in the first place, see how the ossified portion of matter is situated, and then see if it is situated between the layers of the thick membranes in such a manner that there is any possibility of any point irritating the substance of the brain. Now when you irritate the substance of the brain you [illegible]

I have said that there will be no spasmodic affection, and therefore none of that affection which you see in hemiplegia. What then is the probable reason, if it be true that this is a case of hemiplegia, what is the probable manner in which such a portion of ossified matter will produce hemiplegia?

I am now going to read a small paragraph of a late paper of my own in the Medico-Chirurgical Transactions, the twenty-fourth volume, in which I have endeavoured to explain this fact of spasmodic affection arising from an irritation of the membranes of the brain. "In an important experiment which I purpose to lay before the society in the next session, I found that although every kind of irritation, puncture, or laceration of the cerebellum was entirely inoperative, yet that laceration or pinching of the dura mater, immediately induced peculiar spasmodic movements of the eyeball, the eyelids, the head, &c. These effects are probably induced through branches of the trifacial nerve, which, as the recurrent of Arnold, is well known to impart branches to the dura mater, and which may do so to the other membranes within the cranium. The whole subject is in need of investigation. Our way must be pointed out first by experiment. This must be followed by observation. The membranes within the cranium and spinal canal, the other *serous* membranes, and the *internal* textures in general, must be submitted to a similar examination." Here, therefore, I have placed before you the best idea I can form of the result, in the form of hemiplegia, induced by that kind of ossified body found very frequently in the lining of the dura mater and also attached to one of the membranes within the brain.

Now with regard to the nerves: I need not go over every nerve in succession, as you can easily imagine a tumour situated in any part of the cranium; and you can very easily imagine what are the symptoms. Accordingly, if you have the optic nerve compressed, you will have more or less of blindness; if the olfactory, more or less affection in the organ of smell, and so on. But there are two or three points I want to draw your attention to, because they are so exceedingly important, with regard to the diagnosis. Now suppose a case in which there is a loss of sensation in the face. I want to make a remark or two here; how is it that there is loss of sensation of the mouth, so as almost to have paralysis arising from cerebral causes? There is an imperfection in the organ of speaking—a loss of sensation—a paralysis of sensation—a paralysis of muscular motion arising from cerebral causes. The loss of sensation is the cause of hemiplegia. That is one reason why the eyelid will close. It causes a paralysis of the face from cerebral disease. Where it cannot close at all, there is paralysis of the same side of the face, from a pressure on the sympathetic nerve; on the other hand, whenever a loss of sensation comes on from disease of that nerve, it is, generally speaking, a state of things that arises from an utter abolition of the function of the nerve; and, therefore, the loss of sensation, or loss of motion, is, generally speaking, perfect. Suppose you are called to a case in which you perceive loss of sensation. The question comes to be, is this a case of cerebral affection, or is this a case of affection of the nerve? If it is imperfect, I should, generally speaking, be led from that fact alone to infer that it is cerebral; but if it is perfect, I should conclude it is not cerebral, but disease of the nerve itself. You see how important this fact is.

Then with a view to the diagnosis I have another remark to make; that whenever a nerve is affected, it is almost invariably attended with other affections, with a loss of sensation, and a loss of muscular power. Suppose the fifth pair of nerves is affected, what is the effect? In the first place, you will have a loss of sensation at the corresponding part of the face. In the second place, a loss of the power of closing the eyes, which never occurs in cerebral paralysis. Therefore this is an indication of some disease of the nerve in the cranium. There is another fact, and that is the loss of nutrition to the eyeballs. Now, whenever you have perfect loss of power of the muscles that move the eyeball on one side, whenever you have a degree of atrophy of the eyeball, you may be perfectly certain that there is nothing but disease of the fifth pair of nerves. If it is not cerebral, it is more important to make this distinction, because cerebral paralysis may have done this first, but it will do no more. The patient may live in this case, but when there is disease of the seventh pair of nerves in the brain, I believe it is invariably the case that the patient sinks rapidly, and it proves fatal.

I once had an interesting case of paralysis of the seventh pair of nerves, one of the most interesting cases I have ever witnessed. It was totally impossible to trace that paralysis to any disease externally; there was no tumour on either side on the external part of the eye, there was no disease on the external part of the nerve, yet the paralysis was quite complete, and the patient could not close the eyelid. I soon found out the fact, that it arose from cerebral paralysis. Are there any other facts that lead to the idea of paralysis of the nerves of the brain? Yes, I had a very interesting case, one in which with this paralysis of the eyelid, there was deafness. Now considering this case what must have happened! The same thing must have happened as in the other cases in which there was a loss of sensation, and a loss of power of the muscles to close the eyelid. Now it is possible that you may have one or the other of these affections independently of any disease of the brain, but it is morally impossible for you to have both. Therefore when the cerebral system is perfect, when there are no cerebral symptoms, and you have perfect paralysis, you may be almost sure that there is injury of the nerve itself. You have sometimes added to this another symptom, that is, paralysis of the muscles of the eye and loss of hearing, and you are sure that this arises from compression of those nerves at their source in the cranium.

Now we come to a very important diagnosis in internal syphilitic diseases, between that which is a mere affection of the cerebrum, and that which is a tumour or disease of the substance of the brain. I wish, now, to draw your attention to another sort of diagnosis, also, I think, a very interesting one. You have doubtless heard of what is called a blight. I mean the effect produced by a draught of wind falling on the face. It sometimes happens that a person is exposed, for instance in church, (I know of such a case,) and comes home with a face distorted—drawn to one side. Now what I want to mention to you in the first instance is, that in the course of this disease, the face may be in the first instance drawn to one side, and in the second instance may be distorted to the other side, in the very same case. This is a case I have never seen described anywhere, but it is a case in which Sir Charles Bell has said there is, in the first instance, perfect paralysis of the seventh pair on the one side, and in the second instance, paralysis of the same pair on the other side. This is not always the case. Now you are aware that if the hands are exposed to the cold, the first thing that takes place is numbness, and the second thing is reaction or undue sensibility. I remember the case of a patient, who came home after having been in a violent storm of sleet and snow, with one side of the face utterly benumbed, and nothing would restore the sensation of the face. The next morning there was excruciating pain. You have numbness, then, in the first instance, and undue sensibility in the second. It may perhaps be that the cerebral nerve relates naturally to the motor nerves. In one instance the face is drawn to one side, and then you may have a spasmodic affection of the other side, and the face is drawn back again. Now the diagnosis here is important. If you come to the conclusion that there is first of all paralysis on one side, and then on the other side, you come to a false conclusion. It must be that there is some disease in the cranium. The true conclusion must be, that where you have paralysis on one side of the face, causing it to be drawn to the opposite side, in the first instance there has been a spasmodic affection; the nerve has become benumbed and is unduly sensitive, and you have first of all over action, and then undue action. The first impression of cold is to paralyze the nerve. The second state is a state of inflammation, and then you have numbness and undue sensibility. In the other case you have spasmodic action and over sensibility.

Now I believe I must leave this subject of partial paralysis of the face, and pass on to the subject of injuries of the nerves. You will all have observed how rapidly I have given you these sketches. You are aware the number of lectures allotted to me is only ten, whereas I could easily fill three times the number. I must be limited to that number, and therefore my object is to give as much practical and as much diagnostic information in a small number of lectures as is in my power. This is the reason I have been very brief on some points, especially on mere pathology; I have other reasons, but the chief one is this, that you will have the greater advantage of hearing all that relates to the pathology of the nervous system from one whom I have long deemed one of the ablest physiologists of the present day, as well as, I may add, one of the most generous of men. You will, I hope, remember that any advantage you may derive from any remarks I can make, you owe entirely to one whose name I am bound to mention, Dr. Hodgkin.

I will now bring before you the subject of diseases of the nerves very briefly, as I see our hour is very nearly expended. In the first place then, you may have injury of a nerve, and it may entirely subside. In the second place, you may have injury of a nerve, and it may produce certain effects. Now I wish you all to remember these effects, because they are most important in practice, and the diagnosis of diseases. You may have pure tic, that is to say, you may have the symptoms of tic, and they may be confined to the nerve. You may have, after that, what I believe I must call a reflected sensation. For observe, you may have injury of a nerve in one finger, and pain in another finger and the thumb. I do not know what name to give to this, but that of reflected sensation. In one case you may have epileptic pain, that is to say, pain reflected into the thumb and the other finger. Instead of this pain, this reflected pain, you may have what is much more violent and severe, you may have complete tetanus, and instead of that you may have all kinds of partial tetanus. Now I do think I have set before you one of the most interesting arrangements of the effects of injured nerves you can possibly imagine. Remember how an injured nerve may be manifested. It may be attended with an excruciating pain in the part injured, but instead of the pain being confined to that part it may be, in some inscrutable way or other, reflected to other parts, from one finger to the other. If then you have an injury of a nerve, and it is not of a sensitive character, you may have violent tetanus. But instead of that you may have what is called local tetanus: this is the fourth form of it. There was a case I mentioned to the Medical Society a short time ago in which I believe the nerve had been injured by blood-letting. There was immediately a partial sort of tetanus produced, and the hands drawn as in paralysis. I believe it totally impossible for the fingers to have been so drawn by any act of the will, or of any other kind of action. I have not time to go further into the subject, but you will just remember the remarks I have laid before you, that in the first instance, you have pain in the part injured; and in the second place, reflected pain from that part to the adjacent parts; and that from another point you may have complete tetanus, and from a fourth point you may have partial tetanus.

I shall conclude this lecture by alluding to another subject, one of the utmost interest. The question came to be, whether, from an injury of a nerve you may have injury of the brain? Now you remember one instance—you remember a case I quoted, that of a ligature applied to the principal nerve, of the *axillary* plexus. You remember the result of that, was inflammation and suppuration of the opposite hemisphere of the brain, the posterior lobe. That fact leads to this idea, that inflammation may run along a nerve, or it may run along a vein, and produce its effect in the central organ, namely the brain.

In the beginning of this lecture I alluded to the case of a lady who returned from church and when

she got home, every body observed her face perfectly paralytic on one side. That went off, and the next thing observed was, that the face, which had been drawn to the left side, was now drawn to the right side. Now the dreadful result was, that this patient was prematurely confined, and she had a convulsion after her confinement, which terminated fatally. Now the question came to be, did the inflammation that affected the nerves on one side of the face, run along those nerves and affect the spinal centre of those nerves, and so lead to that fatal convulsion that came on after confinement? We had no means of determining this point. But the gentleman who attended that lady had no doubt it was so, and he was criticised by those who had written previous works, and who had only taken the superficial affections of the nerves. I leave the case with you, and the whole subject, advising those who wish to pursue the matter, to take up this point—whether inflammation may run along the nerve to the cerebral and the spinal system, just as it may run along other tissues, especially those of the nervous system?

I will conclude this lecture by just adverting to the fact, that after amputation you have what I have described here. Tubercles are formed on the extremity of a nerve, those tubercles being the source of excruciating pain after the amputation, and it very often happens that a second amputation is made, and a third amputation at the shoulder joint, and then you begin to understand why the amputation here proved successful. One thing I forgot to mention, and that is what is called a subcutaneous tumour. It sometimes happens that a very minute tumour is formed along the course of a nerve, which leads to dangerous symptoms. I have now done my best to give a general idea of the cerebral system and its diseases, and for the next three lectures I must beg your attention to another class of diseases—a totally different kind of disease, belonging to the excito-motor system; having their seat or their centre in the spinal marrow.

CURABILITY OF CONSUMPTION.

(Continued from page 296.)

(To the Editor of the 'Medical Times.')

SIR,—All attempts to place the treatment of consumption on a satisfactory *medicinal* basis have signally failed. The animal, vegetable, and mineral kingdoms, have been laid under contributions to supply prophylactics and curatives Demulcents, expectorants, emetics, sudorifics, narcotics, tonics, astringents, balsamics, &c., &c., have been combined in formulæ of endless variety, congruous, or incongruous, scientific or empirical, and as yet without effect. If the subject were not too grave, the perusal of Dr. Young's History of Treatment, is sufficient *risum movere* in no moderate degree; it reminds me forcibly of Ovid's description of Chaos;—

> "*Obstabatque aliis aliud, quia corpore in uno,*
> *Frigida pugnabant calidis, humentia siccis,*
> *Mollia cum duris, sine pondere habentia pondus.*"

The multifarious details show that in the attempts at cure there has been no want of industry, perseverance, or boldness approaching even to temerity. But what a miserable, ludicrous exhibition of the impotence of ill-directed efforts the whole presents! In his laborious compilation, though the Doctor must have been not a little relieved by the amusing conceits and vagaries of his predecessors and cotemporaries, yet it is not a matter of wonder, that after parading them all in grand review, he should have joined the forlorn hope at last.

It is, however, to be regretted that he had not turned his researches to more practical account than recording the absurdities of the profession. His labours remind me forcibly of those of Sisyphus in the condemned regions of Orcus, who figures as an example of barren toil, rolling a huge stone up an ascent which he is conscious he can never win. The employment of this famous character was quite as useful as that of Dr. Young.

Laennec commences his chapter on the treatment of consumption, by remarking on the numerous remedies proposed for its cure; the employment of every known medicament, however different or opposite in effect; the proposal of new remedies every day, or the revival of old ones, after having been long consigned to deserved neglect, and the inconstancy of every plan but that of giving palliatives, or fulfilling symptomatic indications. On such grounds, he proceeds to say, have acids and alkalis been alternately recommended; spare diet, and rich animal diet; dry air, and moist air; pure air, and fœtid air; oxygen, hydrogen, and carbonic acid; exercise and quiet; emollients and tonics; heat and cold; paregorics and other anodynes, and stimulants not only of the aromatic and antiscorbutic kind, but the most irritating preparations of mercury; the sulphate of copper, arsenic, and others. His own views of treatment are, however, equally dark and empirical with those of his predecessors, and wind up with the very unsatisfactory conclusion, that in the present state of our knowledge, we have no better means of opposing the disease than a sea voyage, or a residence on the sea coast in a mild climate. This impression was so strong on his mind, that for the purpose of establishing an artificial marine atmosphere, he actually introduced sea-weed into a ward of the clinical hospital to which he was attached. Could anything previously tried have been more empirical than the use of offensive *fucus verrucosus?* Oh! most lame and impotent conclusion!

In the records of the treatment of this disease, approximation to juster views discovers itself here and there, in the high value attached to exercise, particularly such as bears more immediately on the lungs. The principle, however, of its beneficial operation appears not to have been appreciated, viz., its giving expansion to the pulmonary tissue. In his work on consumption, Dr. Ramadge very truly observes, "neither perfect recovery, nor indeed exemption from the danger of a relapse into a consumptive state is found to occur, except in very rare instances, unless the pulmonary organs become naturally or artificially voluminous." By medicine alone this effect is impossible, and so long as we confine ourselves to it, disappointment will track our course; there is no alternative left; the lungs must be expanded by some means, and those are obviously at our command in the process of artificial respiration, mechanically regulated by the construction of the respiratory tube.

Diminution of the pulmonary volume and contraction of the chest are always found together, and have a reaction on each other. The moment the chest begins to contract from inadequacy of power in the respiratory muscles,—the result of debility, no matter how superinduced,—that moment also the lungs begin to contract, and *vice versa.* The area of the great air passage remaining the same, while the capacity of the lungs is diminished, subverts the normal relationship between the inspiratory and expiratory powers—renders the expiration too easy. The consequence of this contraction, diminished activity, and disturbed balance, is the deposition of tubercles primarily in those parts of these organs, which, from their locality, possess least expansive power. Auscultation and autopsy concur in this conclusion. The evil once commenced, multiplies itself; the dissemination of tubercles at the summits of the lungs propagates irritation to the adjacent pleura costalis, and leads to adhesions. The deposit in this site is very common; in the majority of adult *post-mortem* dissections, we find either tubercles or black stains, or dark oval indurations of the pulmonary tissue remaining after absorption: unless some stop be put to the progression of pulmonary contraction, a second crop succeeds to the first, and the morbid deposit goes on if not cut short by dissolution, till at length the lower lobes are implicated. This increasing monopoly of the lungs by tubercles proportionally diminishes their expansibility. Even in health, owing to the various motions and positions of the body, the entire capacity of the air cells is seldom fully dilated; how much more must this be the case under tuberculous dissemination?

The altered form of the chest as it gradually departs from the healthy standard is a faithful index of the morbid changes going forward internally. In phthisis there is generally a wide intercostal space; the convexity of the ribs looks more downwards than in health, and the lateral defences of the chest appear greatly lengthened; the sternum is either perpendicular, or drawn downwards and backwards, increasing the usual elongated appearance of the neck; the chest losing its arched contour, becomes flat; from the sinking of the ribs, a marked depression is seen both above and below the collar bones, and the shoulders advance forward, giving to the scapulæ behind a wing-like form; all combining to contract the chest round the collapsing lungs. Now, in asthma we have the same coincidence exemplified by contrast. The lungs being preternaturally expanded, the chest also becomes so; some of the muscles of the neck are hypertrophied and unusually firm; a hollowness is seen above the sternum from the retraction of the trachea and advancement of the larynx; the shoulders are raised, the patient stoops, and unless there have been previous pleuritic adhesions or contractions from tuberculous disease at the summits of the lungs, there is no depression above or below the clavicles; the sternum advances forward in its entire extent; the arches of the ribs tend upwards, so as to give the chest a rounded, full form, adapting the capacity of the thorax to the voluminous state of the lungs. By regulating the respiration, we bring both the chest and the lungs to the normal state, which lies in the middle between these two extremes. I have seen very many instances of this both in phthisis and asthma. Even so early as a month from the commencement of the use of the respiring tube in young consumptive patients, it becomes occasionally necessary to let out the clothes round the waist. The following case will give some idea of its power over the structure of the chest.

The Rev. Mr. Howe, late chaplain of the City Hospital, New York, employed the tube under Dr. Ramadge's directions for the cure of true consumption, which had reduced him to a state of almost hopeless prostration. In connexion with medical treatment adapted to the alleviation of symptoms, his health was restored by its use, and according to a communication lately received, still continues in a very satisfactory state. His own account of the changes in the form of the chest appears in an American publication, dated 1839.—He says, "the shape of my chest is astonishingly improved and enlarged. About six years since, the measurement of my chest close under the arms was thirty-two inches; but for five years following there was a gradual diminution, so that for three years previous to my getting the tube, my measurement was thirty inches, making a decrease of two inches; since getting the tube, I have increased in size two and a half inches, making my measurement now thirty-two and a half inches. But the alteration in the conformation of my chest is truly wonderful. The collar bones were very prominent, and the chest so drawn together, that I was afraid to see myself in the glass. Now my chest has recovered a round and plumper appearance, and my neck is filled out so that the conformation is better than it had been for years."

This individual had consulted some of the most eminent physicians of France, and also in London, without deriving any benefit from their advice; immediately before resorting to the use of the respiring tube, he had been under the care of Dr. T. Davies, whose treatment failed to give any relief. He then applied to Dr. Ramadge, who found him in a state of great despondency and prostration, but by the agency of mechanical respiration and subsidiary medical treatment, he recovered under his care. In a publication, he mentions the names of several clerical and other friends, who made use of the tube by his recommendation, for relief from catarrhal asthma or phthisis. In some of the former, the disease had gone so far as to deprive the ribs of mobility; and in the latter, the chest had undergone various degrees of contraction. The mechanical respiration steadily persevered in, had the effect of restoring free motion in the asthmatic, and expansion of the chest in the phthisical cases, some of them to a much more considerable extent than in his own case.

I have now before me a letter from another American gentleman, in which he states that he placed himself under Dr. Ramadge's care, last

autumn for consumption, his chest then being contracted, and his flesh much wasted: since that time, under the use of the tube, he has gained forty-one pounds in weight, and some inches in the size of his chest. He had been recommended to go to Madeira, but in deference to the advice of the above-named physician, remained in London, and has found his account in doing so, as indeed have many others also with whom I am acquainted, who had been ordered abroad, but have remained at home and recovered under this treatment. I select this opportunity to state that although the use of the respiring tube has, in phthisis, the effect of enlarging the pulmonary volume and the chest, it is not to be inferred that there is any danger of its being carried so far as to bring on a permanently emphysematous or asthmatic state of the lungs.

In the treatise by Dr. Palmedo, of Berlin, alluded to in a former letter, he charges Dr. Ramadge with having asserted "that an asthmatic state of the lungs was produced, as well in cases where nature cures the phthisical disease, as in those where his method of cure is resorted to." I do not wonder at his want of success in the trial of this treatment, when he took so little trouble to comprehend Dr. Ramadge's meaning as to fall into the above-quoted error. This author, in many parts of his work, very distinctly asserts that the practice of tubular respiration never superinduces asthma or emphysema properly so called, but on the contrary, that it possesses an equal power over asthma as over phthisis. I have seen many cases of asthma at the infirmary, and also in private practice, in which it has been employed with the most decided advantage, restoring the lungs and air passages to their healthy state, and the thorax to its normal proportions;—of this I shall say more in another place.

Our theory will uniformly apply even to facts, which at first may appear to oppose it. We may be asked why is consumption so prevalent among musicians who perform on wind instruments? Because they make several successive expirations to one inspiration. This is in direct opposition to the natural process of respiration, and also to the mechanical, as regulated by the respiratory tube, and therefore produces effects directly the reverse, contracting the chest and diminishing the pulmonary volume. On one occasion, Dr. Ramadge was consulted by the leader of a band on behalf of himself and fellow musicians, as to the best method of counteracting the effects of this irregular breathing, and recommended that they should all take a long and quick run immediately after the close of their performances, or provide themselves with a tubular walking stick, constructed on his principle, and respire through it at proper intervals. This was followed by the best effects. Thus we find an objection as apparently against our theory constituting really a marked exemplification of its truth.

Again, how many instances of consumption occur among females who habituate themselves to the use of very tight stays, corsets, &c.; an injurious practice against which medical men have long lifted up their warning voice to no purpose. The confinement and stooping attitudes of counting-houses, manufactories, and various mechanical branches of trade, send thousands prematurely to the grave, and sow the seeds of death to be reaped by future generations. All these bad effects may be resolved into the simple principle I have laid down,—contraction of the chest, and want of due pulmonary exercise.

The North American Indian, in the humid atmosphere of his boundless forests, exposed with very imperfect coverings to the rigours of variable and inclement winters, almost uniformly exhibits symmetry of the chest, and a sound state of the lungs. It is only by coming in contact with the habits of civilised nations he learns the practical history of the malady, that desolates the enlightened regions we inhabit, and under which so many myriads pine as if

——"Enamoured of decay,
Cling to their couch, and sicken years away."

His life from youth to age is one of vigilance and exertion, amidst the toils of the chase, or the alarms of war, and leaves no opportunity of sinking into a state of habitual inactivity. The child of nature, he inhales her own balmy breath, and expatiates freely amidst her woods and waters, happily a stranger to the pernicious restraints we submit to, in obedience to the tyrannic caprices of fashion and prejudice, or in the pursuit of pleasure, wealth, and power.

DISCIPULUS.

ANNUAL REPORT OF THE REGISTRAR-GENERAL, 1843.

This vastly-important volume, just issued, is now before us. We propose to make from it a few of the more interesting extracts:—

VARIATIONS OF ANNUAL MORTALITY.

More Deaths were registered in the year ending the 30th of June, 1841, than in any preceding year; the number registered (355,622) having exceeded the deaths in the three previous years by 5,521, and 14,615, and 19,666 respectively. To judge accurately of the rate of mortality, the increase of the population must be taken into account; and we then find that the mortality, last year, slightly exceeded the mortality of the preceding year, and was nearly 6 per cent. (5·7) above that of the year 1838-39.* The relative annual mortality per cent. as shown by the mortality of females, was 2·055 and 2·157, and 2·171; if a correction be made for the deaths not registered in the first year (1837-38) the mortality in that year will be found little less than that which prevailed, in 1840-1.

With reference to the increase or decrease of mortality in the several divisions of the kingdom, the mortality attained its maximum in 1839-40, throughout the North Western, York, and North-Midland divisions; whilst it increased slightly, but progressively, from 1838-39 to 1840-41, in the Western, South-Midland, Northern, Welsh, South Eastern and South Western divisions. The mortality was lowest in Essex, Suffolk and Norfolk, and in the metropolis, when it was highest in Cheshire and Lancashire (1839-40.) The mortality, I may remark, in that year was excessively high in the North-Western Division; but I have the satisfaction of stating, on the authority of the Quarterly Returns, that the decline observable in 1840-1, continued in 1842. The diseases causing the mortality will be stated in the Appendix. It may be mentioned here that scarlatina was epidemic in 1840, and committed great ravages in Lancashire. The same disease has since been epidemic in the southern parts of the island.

A glance at the table will show that the mortality in different parts of the country has differed to an extent ranging from 1799 to 2670 annual deaths out of the same number (100,000) living. The mortality was above the average of England (2143) in the North-Western, Metropolitan, York, and North-Midland divisions; and below the average of England in the seven remaining divisions. The Metropolitan Division, with its dense city population, which is recruited partly by immigration, can scarcely be compared with the other ten divisions; the mortality is necessarily higher than it would be among the same population, scattered over a wider space, if equal precautions were taken to remove as well as to dilute the effluvial poisons generated around human habitations. The density of population in Lancashire, though much greater than in the rest of the kingdom, is incomparably less than the density of the population in the metropolis; yet the mean mortality was higher in that county than the mortality of the metropolis during the three last years. The mortality was nearly half as high again in the North-Western Division, as it was in the South-Western Division. It may make the fact more striking to those who are unaccustomed to calculations of this kind, to state, that, if the mortality had been everywhere as high as in the North-Western Division, instead of 355,622 deaths, 440,363 would have occurred last year; and that only 302,800 deaths would have been registered, if the mortality of the entire population had been as low as that observed in the south-western counties.

* We have no means of knowing what the average mortality absolutely was before the present system of Registration was introduced; but according to one of the best estimates (by Mr. Edmonds) the annual mortality of females was 2·05 per cent. during the 18 years 1813-30.

PUBLIC HEALTH IN THE YEAR, 1840.

A comparison of the number of deaths registered in the four quarters of the corresponding years is exceedingly instructive.

Quarters ending	March 31,	June 30.	Sept. 30.	Dec. 31
	—	—	—	—
1838	98,114	90,810	72,791	80,816
1839	98,739	87,965	76,280	84,995
1840	93,813	90 339	80,820	89,630

The increase bore principally on the summer and autumn months.

It will be observed that in 1840 the supposed causes of 351,757 deaths were stated; leaving 7,804 deaths, of which the causes were not assigned. It has been assumed, in calculating the mortality by each cause, that the causes of the 7,804 deaths, in which the causes were not stated, were the same as those of the 351,757 deaths in which the causes were specified.

The mortality by all causes was higher in 1840 than in 1838, and considerably higher than in 1839. Out of 1,000,000 living in 1839, only 21,856 died; while in 1840, out of the same number living, 21,856—and 1,022 more—perished. Upon referring to the deaths by different classes of causes, it will be perceived that 626 of the excess (1,022) arose in the epidemic class of diseases; the remaining excess being distributed over all the classes, except that of the violent deaths, which diminished somewhat in each of the two last years.

The deaths from small-pox fell from 16,268 in 1838, to 9,131 in 1839, and 10,434 in 1840, the deaths from typhus fell from 18,775 to 15,666 and 17,177. From both diseases the mortality was less in 1840 than in 1838, but greater than in 1839. Hooping cough progressively declined from 9,107 deaths to 8,165 and to 6,132.

Scarlatina was the reigning epidemic of the year 1840. According to the theory of Sydenham, it would communicate its character to the acute diseases and constitute the medical constitution of the year.

The deaths from this severe epidemic were in the three years:—1838, 5,802; 1839, 10,325; 1840, 19,816.

And the deaths by scarlatina, out of 1,000,000 living, were in the same years 393,683, 1,289. The epidemic was most destructive in the North-Western, North-Midland, York, Welsh, and Northern Divisions. In the North-Western Division (Lancashire, Cheshire), the annual mortality by scarlatina was 2·5 in 1,000; so that the mortality of children, who are the principal sufferers, must have been excessively high. The epidemic had not terminated, and we shall have in the next Report to trace its destructive course through another year, and in other parts.

The deaths by diarrhœa, cholera, influenza, and ague, increased to a considerable extent: though not so as to assume the epidemic form, or to present anything very remarkable.

The deaths from hydrophobia in the three years were 21, 15, 12; and, therefore, not half so numerous in 1840 as in 1838.

The mortality by the diseases of the Nervous System was nearly the same in the three years, viz.; ·003365, and ·003255, and ·003302. The mortality by cephalitis and paralysis was slightly higher in 1840, than in the two preceding years.

The mortality by the diseases of the Respiratory Organs was, 6 in 1,000; or in each of the three years ·006149, ·005989, and ·006043. The deaths ascribed to Consumption in each of the three years were 59,025, 59,559, and 59,923; and the mortality was ·003996, ·003939, and ·003897. The mortality from this disease declined very slightly. About 4 in 1,000 persons died annually of Con-

sumption, and about one-fifth or one-sixth of the total deaths were by this disease.

The mortality of diseases of the Digestive Organ was ·001307, ·001373, and ·001465. The increase was chiefly in Enteritis.

The mortality by diseases of the Urinary Organs was ·000112, ·000101, and ·000110 in the three years. The deaths by Stone (and Gravel) were 320, 299, and 303; the mortality ·000022, ·000020, and ·000020. About 1 in 50,000 persons die of stone annually. It will be interesting to see whether the mortality be reduced in future years by the discoveries of surgery. The mortality by Diabetes is to that by Stone nearly as two to three.

The deaths in Childbed were 2,811, 2,915, and 2,989 in the three years. The mortality increased from ·000190 to ·000193, and ·000195. To about 187 children born alive, *one mother died.* The proportion of mothers who perish at this important period is unquestionably excessive; and must suggest to every humane person the inquiry whether the education of the nurses who attend the poor in labour, may not be improved?

The number of deaths ascribed to Rheumatism and to diseases of the joints was 962, and 1,170 in 1840.

If we except "Debility" under which head are included "premature births"—"Dropsy" was the most fatal of the diseases of "*uncertain or variable seat.*" The deaths ascribed to dropsy were 12,312, 12,251, and 13,261 in the three years; the annual rate of mortality ·000836, ·000810, and ·000683. It is scarcely necessary to add, that according to the present views of pathologists, Heart Disease, or Nephritis, would, in the majority of cases, be considered the primary affections. So difficult, nevertheless, appears to be the diagnosis practically, that nearly as many cases of simple "Dropsy" are registered in the London Hospitals as out of doors in private practice.

EXTRACTS FROM FOREIGN JOURNALS.

From the Berlin Medicinische Zeitung, for the "Medical Times."

GERMANY.—*Chronic Case of Glander, transferred to the Human Subject.*—(*By* DR. KRIEG.)—The more evidence we have afforded, that the glanders, to which the horse and ass are subject, was long known to the Greeks as a dangerous, and even incurable disease; so much the more striking must be the fact, that in modern times only, men first turned their attention to the transference of the malady to the human subject, for human disease through glandered animals was in no period wanting. We can, although under other names, find more than one case described in the Ephemerides of the old physicians, which, although then treated as scorbutic, were, in fact, nothing else than glanders. The five cases observed, nearly together, in the Prussian Regt. of Gens-d'Armes, described by Henckel, belonged indubitably to this disease. Few physicians would have been so candid as was the brave and conscientious Henckel. "All these cases," he says, "disquiet me, and make me desirous to know how I shall properly denominate them, wherein I should place their cause, and what more should be practised in their treatment, to prevent death, if it be in any way possible." He pictured the disease as a Febris Irregularis, and, among other symptoms, perceived its malignity in the fetid transpiration and those "wonderful matastases, so suddenly arising; even within one hour, fluctuation was speedily perceived in those places, &c." He also adds, he has not remarked that "this malignant essence became contagious," for in that quarter no one else became diseased. Bernhard Ritter has lately, in an excellent tract upon this subject, noticed the elder Osiander, as the first who made public (in 1803) a case of infection in a man, from glanders. Since then, however, similar observations have accumulated from all sides, so that now, notwithstanding the repeated doubts raised, the not rare occurrence of its transference stands certain.

Where infection is caused through the inspiration of poisoned air from glandered animals, symptoms of pathognomonic value are ever disclosed in the course of the disease. And certainly the circumstance ought not to be overlooked, that it produces cases in which the disease can be prolonged for many months, without the phenomenon of reaction of the human system, raising itself to the form of that entirely peculiar typho-septic process, which hitherto has always put an end, at the same time, to the disease and to life. In my Inaugural Dissertation (Berlin, 1829), I have distinguished it by the name of "Typhus Maliodes." That this received name, following Bartels, now suits, not the entire disease, but only the last stage, is understood of itself. On the contrary, the including terms, "Morbus Mallearis," "Passio Maliodes" will answer for the entire form of the disease, much the same, whether their individual periods end within longer or shorter intervals, and whether the essential symptoms appear more drawn out from each other here, or there crowded together in shorter stadia. Bartels, however, is the only one, until now, who has assigned to Glanders its destined position in the Nosologic system, as a peculiar disease, not to be confounded with any other; whilst, e.g., Mason Good, and his famed commentator, Samuel Cooper, have not at all mentioned this disease, although they have near enough included it under "Erythema Anatomicum" in described cases of constitutional disease.

One case of long-continuing glander disease has been communicated by Wiggins. He had under his treatment the son of a butcher, æt. 12, who was ten months ill of this disease, and died under the usual symptoms of this affection. A second case has occurred, only lately, to myself. I was requested to visit the postillion, Walter, who lay ill in D——, about a mile from this place. I proceeded thither in company with Herr Department Veterinary Surgeon Korber, whom other business called there. I found Walter in agony. After proper examination, I pronounced to my companion, with great confidence, that the patient was dying from infection by the poison of the glanders. The right side of the neck was taken up by an enormous, dark, erysipelatous, hard swelling, upon which had arisen numerous pustules and bladders, of irregular forms, from the size of a pea, to that of a small walnut; the lesser, yellow and pale red; the larger, bluish green, all filled with a thin humour. (Jauche.) Similar swellings covered the left shoulder, the hips, the leg and thigh, the right ham, and upon all these had those bladders elevated themselves in numerous grades of development. The nostrils were dry; they had, nevertheless, before, poured out a profuse thin secretion. The tongue dry, incrusted with slime. Pulse and respiration shewed already-commenced paralysis; the hands and feet were cool; the skin clammy; the exhalation from the patient not strikingly penetrating. Although he had been ill more than six months, yet only in the last ten days had he become so weak, that he could no more leave his bed, and, since then, his condition had visibly deteriorated. From the commencement of the disease, until three weeks before, he had been treated by Surgeon Durbeck; since then, as his wife asserted, he had been without medical assistance. The man died on the following night, and by accurate investigation, I was convinced that, previously to his first sickness, he had repeatedly groomed glandered horses. Surgeon D., at my request, informed me of the course of the disease as observed by him, substantially as follows: Six months previously, he had first seen the patient; for many weeks he had complained of great weakness, and drawing pains in the limbs; he had, notwithstanding, performed his duties, till at length he was quite unable, from pain and debility. He was now at times obliged to keep his bed; he had light fever, with gastric attacks; profuse morning sweats; and violent pains in the extremities, especially on the right side. Soon, rose-coloured and very sensible swellings arose on all his limbs, great and small, in which fluctuation greatly shewed itself. The abscesses were successively opened, evacuating a thick, not ill-smelling, pus; and were then generally well healed again in the course of some weeks. At the same time the condition of the patient, who had become very weak and emaciated, appeared in general to have bettered itself: his strength had markedly increased. Nevertheless, gouty-like pains continued, with intermitting violence, in all his limbs; the morning sweats also remained; and soon the at first rosy inflamed boils quickly elevated themselves in different places, yet, in a great measure, again discussed themselves. In the fifth month, the apparent amendment had completely ceased. The hitherto tolerable pains became manifestly more violent; the patient had strong fever, stitches in the breast, anxiety, and cough, and at length began to expectorate great quantities of matter. (Most probably, the peculiar suppuration of the disease had destroyed even the tissue of the lungs.) Later, when the difficult breathing had abated, the pus expectoration had nearly ceased, and his condition had acquired a more mild appearance. As the last act of his long sufferings, typhus fever, with gangrenous boils, suddenly developed itself under quick augmentation of the old pains in the extremities, in the neck, and shoulders. Unfortunately, various causes prevented my making the section: the results would have been,—although in essentials not different from those known in such cases,—so far worthy of remark, as here the disease had had sufficient time to engrave its destroying traces in every organ, and in the organic system. Even in the case communicated by Wiggins, the section did not take place. One circumstance well deserves to be mentioned here. From the tranference of a poison from one species of animal, where it is in condition to develop itself, not barely through infection, but even spontaneously, to another which never spontaneously generates this poison,—the glanders is, in man, as it were, a bastard production. As such this appears, like other hybrid diseases, to possess only a limited generation of the power of infection. So indeed even the vaccine will be transferred from man to man only by inoculation. So even is it more than probable that the accidental inoculation of the contagion of glanders, perhaps by a wound in the section of a man dying from this disease, would call forth a similar disease in a predisposed individual.* But no case is known to me that persons who have attended such patients, have become ill through infection. In the above case, many members of the family had, in their turns, slept near the patient; even his wife lay in the same bed with him, during the whole of the last deadly stage, without apparent prejudice to her health.

* A case of this kind absolutely did take place at Paris, under the care of M. Bouillaud. We gave the case in a previous number.

TO CORRESPONDENTS.

A case of personation has been placed under our notice. On the 24th January, Dr. Jonathan Green, of Marlborough Street, had his attention called by a post letter, ill-written, and on shabby paper, to "the interesting notice" of his book inserted in the last number of a minor contemporary. The doctor thus kindly informed of what otherwise could never have reached his knowledge—being a denizen of good society—was induced to purchase, or at all events to consult, a copy, when much to his surprise, he discovered that the interesting critique was a low personal attack. In the sale of the journal, or attraction to it of notice, the plain object of the note-writer was evidently answered; but will our readers believe that to gain this petty end, our name as Editor of the "Medical Times" was assumed, *coupled with a request (to give that assumption countenance) of a copy of Dr. J. Green's work. The note is in our possession, and if the Mr. Burgess who, as writer on skin diseases, is interested in using the attenuated journal with which he is connected, in decrying a gentleman who has the largest practice in skin diseases of any medical man in London—be not the author of the despicable personation, nor in any way connected with the attack that gave it birth, he will do us a favour in enabling us authoritatively to say so. Once for all we never have, never do, and never shall write to any author or publisher in respect of books for review.*

Mr. Houghton.—*The necessary expences for horses and vehicles only used for professional purposes are deducted in returns as to the property tax. Common justice and the words of the act equally provide this.*

I. N. A.—*We shall be glad to receive the paper named.*

Mr. Watts is informed that it is well understood that our Periscope of the week consists of condensations or extracts from other journals, a circumstance duly announced to all our readers. Where we use matter of any great importance we give it as a separate article, with the names of the different sources, but in our Periscope (made up of short facts) we should lose as much space in publishing the history of an article's successive lodging place in various foreign and English journals as the article itself often contained. We shall probably pay our monthly and quarterly contemporaries more notice both critical and extractive than we have hitherto done, and the Chemist among others.

A Student.—*We should recommend Dr. Walshe's recent work.*

M. N.—Devotus—Gnyeusis—" All Hail"—Constant Reader, *Bath*—Mercator—*declined.*

Our Lectures by Dr. Sceffern on Chemistry, and Professor Serres on Organogeny, with the case of Spina Bifida by Dr. Kinns in our next number.

THE MEDICAL TIMES.

SATURDAY, FEBRUARY 18, 1843.

Good laws make good subjects.—OLD SAW.

THE Bill introduced by Mr. French, for the regulation and support of Irish Medical Charities, which received its second reading on Monday evening, now lies before us. Antecedent to any expression of our opinion on its merits, we shall present our readers with a faithful abstract of its contents.

The first clause repeals that portion of the Irish Poor-Law Bill which authorizes the Poor-Law Commissioners to scrutinize and partially direct the administration of hospitals or infirmaries supported, in part, by Grand Jury presentments, or Parliamentary grants. In the second, the Lord Lieutenant is authorized to appoint, *during pleasure*, a certain number of persons, being not less than [*five*],* of whom a certain number are to be "physicians or surgeons residing in Ireland, *and who shall have practised as such*, not less than ten years previously," to whom shall be added the two Presidents of the Irish Medical and Surgical Colleges, and the Governor of the Dublin Apothecaries' Hall, who, collectively, are to form the Medical Charities' Board, and are to "act under such regulations as the Lord Lieutenant *shall from time to time think fit to prescribe*." These new Commissioners are to have no salary, nor other kind of remuneration.

The next clause refers to the formation of an office, appointment of secretary, clerks, &c.—enacting, further, that the meetings of Commissioners shall be fixed by the Lord Lieutenant, and that four members shall form a quorum. The Commissioners are then authorized and required to demand accurate statements from all persons in whom any State Charity may be vested, on every point concerning it, and to "issue any order they may think proper, for enforcing obedience to the statutes, charters, &c., governing any such Charity." By Clause 5, the Commissioners are empowered to enquire into all charities founded on bequests, to examine into breach of trust and mal-administration in such cases, and they are required to present the results to her Majesty, with such suggestions as they may think most serviceable for the restitution of misapplied funds, or the prevention of further misapplication.

The next clause requires public officers to give copies of public records, or extracts, gratis, on the order of one Commissioner; and, by the following, the Commissioners are instructed to send in to the Lord Lieutenant, as early as possible, a report upon the state of disease, and the conditions and circumstances of every medical eleemosynary institution in Ireland; and to furnish, half-yearly, the statistics of the inmates. The treasurer, also, of each institution is to send to the Board a yearly statement of its funds, and mode of application. By the 9th Clause, the Commissioners are empowered, with consent of the Lord Lieutenant, to make, alter, or revoke, at pleasure, orders for the medical economy and management of dispensaries and fever-hospitals. The consent of the Lord Lieutenant is to be attested by warrant under his hand, transmitted by his chief or under secretary to the Commissioners. The Lord Lieutenant, however, can revoke or suspend all such orders at pleasure. [11] The Commissioners are,* *ipso facto*, to be members of the "General Board of Health for Ireland," and [12] are to have the same powers, in respect to discharge of their duties, as "the Commissioners for auditing the Public Accounts." They are, however, like the Lord Lieutenant, [13] to have no power to interfere in individual cases of medical relief. [14] The orders of the Commissioners are to be sealed with the special seal of the Board, which seal is to prove itself. All the orders published [15] are to be laid before Parliament within the first week of its sitting.

By Clause 16, the Lord Lieutenant is empowered to appoint, during pleasure, any number of persons not exceeding [*four*], being physicians or surgeons, practising as such at least seven years, as "Inspectors of Medical Charities," to act under the direction of the Commissioners; and these [17] are in no way to be connected with any public medical institution, or school, or prison—or to sell drugs—or to practice—or to be inspectors of anatomy—or to derive, in any way, any emolument from their special duties, as Inspectors of Charities, save their regular salary. (This salary is said to be "*hereinbefore* provided," but is "hereinbefore" altogether omitted, even in name.) The Inspectors [18] are to use the office, and be assisted by the clerks of the Commissioners; and [19] are to examine into the state of every medical charitable institution at least once a-year, and to prepare exact reports for the Commissioners. The 20th Clause compels treasurers, &c., of infirmaries, to pay fivepence in every pound received, to the Commissioners, to pay for the working of the present Act, which fund can only be paid out on orders signed by three Commissioners, and counter-signed by the Secretary. The Inspectors [22] are to have [£600] per annum, with their travelling expenses; but the whole expense for working the Act is not to exceed [£1,600] per annum. The Commissioners, by the next clause [33], are ordered, when so required by [*twelve*] or more payers to grand-jury cess, to inquire into the extent of medical relief in any district, and to give a report thereon to the Lord Lieutenant, who is then [24 and 25] empowered to create a dispensary or fever-hospital district, of the extent suggested as required. The grand-jury is required to present off the said district the sum of money necessary towards the support of such dispensary or fever-hospital. If the district, however, lie in two counties, or more, the respective grand-juries are to present the proportionate portion fixed by the Commissioners, to the secretary of each grand-jury, [ ] days previous to each assizes. Of all such institutions, so appointed, [27] all unpaid justices of the peace, with the principal minister of each religious denomination in the district, are to be ex-officio Governors, to whom, [28] if not amounting to ——— shall be added as many of the *highest* cess payers in the district as will supply the deficiency. [29 and 30] Donors of [£20] whether resident or not resident, as, also, annual subscribers of £2 and upwards, are to be Governors—without votes, however, in the election of officers, unless after 12 months' Governorship. By Clause 31, the Governors are made bodies-corporate, subject to the Lord Lieutenant; and, as such, property will vest in them, &c. Clause 32 refers to the times of meeting, and the number of Governors required to form a quorum—points unfixed, except [33] that no one Governor can do anything in management, &c., except at a meeting of Governors. [34] The Governor's non-quali-

* The words in italics, and brackets, are to be decided on specially in committee.

fications are not to vitiate proceedings in which other Governors have concurred. [35] *No medical officer is to be elected, save under the warrant of the Lord Lieutenant; and the Commissioners are to define the several duties of such officers—their "places and limits,"—and regulate their amount of salaries, and mode and time of payment.* [36] The physician must be a member or licentiate of King and Queen's College of Physicians, Ireland, or of some other College or *University* in Great Britain and Ireland, duly authorized to grant licenses, &c. [37] The surgeon is to be a member of the English, Irish, or Scotch College of Surgeons; or have a surgical degree or diploma from some College, University, or *body* in Great Britain and Ireland, duly authorized by charter or statute. [38] The apothecary must be a licentiate of the Dublin or London Apothecaries' Society; and all medical candidates [39] must have their *legal* (?) qualifications first attested by the Commissioners, before being eligible. [40] The Lord Lieutenant may, however, require in *each* candidate the *double* or *triplicate* qualification, including a certificate for midwifery. [41] The mode of election of non-medical officers, and their qualifications, are similarly arranged. [42] Where the Governors do not elect within a month of the *conge d'elire*, the Lord Lieutenant may appoint an officer.

By Clause 43, the Lord Lieutenant is empowered to remove any medical officer on the Commissioners' application, or upon application of [*four*] or more Governors, supported by whatever investigation the Lord Lieutenant may think proper.

[44] The Governors have power themselves to remove any officer not medical. [45] Register Books are to be kept by the medical officer, and [46] half yearly returns of accounts are to be sent to the Commissioners by the grand-juries. [47] Paid officers furnishing to inmates for profit, medicines, furniture, &c., or concerned in any contract relating thereto, are to forfeit [£20] with full cost of suit to any party sueing, or if caught [48] embezzling to pay [£10] for the offence, and to restore treble the amount of embezzlement. [49] Disobedience to the Lord Lieutenant's orders entails a [40s.] penalty for the first offence, and of [£5] for the second offence, and all penalties [50 and 51] are to be recovered summarily on an oral hearing, and conviction before one or more magistrates, the forfeiture being at once levied by distress if necessary, or in default of goods by imprisonment. The remaining clauses refer but to appeals, payment of costs, and latitude of interpretation.

We proceed to conclude our description of the state of our profession in Germany, by brief statements of the Medical Governments of Wurtemburg and Baden.

In Wurtemburg, there are two *grades*, and five *divisions*, of medical men: that is, we have, first, Doctors of Medicine only, with Doctors in Medicine and Surgery; and, secondly, three classes of Surgeons, known as first, second, and third. The Doctors' studies are commenced with proving paternal permission, and preliminary education; they extend through three years, one of which must be spent at the Tubingen University. The candidate follows whatever studies he pleases, and as he pleases—and the half-yearly examinations are matters of mere choice. A verbal examination, called "rigorous,"—and which is twice sustained, if the diploma is for the double qualification—is followed by a thesis, the positions in which are maintained by the candidate against the objections of the Professors. The Doctorship is now conferred, but the liberty of using it in practice is only purchased by shewing certificates of having attended, for a twelvemonth, clinical studies in some hospital of importance, or the practice of some distinguished practitioner, as assistant—and undergoing the State examination, which is long, and extremely searching, requiring practical proof of high capabilities in every part of the domain of Medicine. Doctors of Medicine are inhibited, under severe penalties, cases of Surgery and Midwifery.

The *Surgeons* of the first class write no thesis, and undergo but the State examination. In other respects, their studies are followed in the same way as the Doctors'. Their medical education, however, costs but about 72 florins. The lower divisions need no further description.

In Baden, we have, first, Physicians, who are examined during eight days, both orally and in writing, and who have their characters attested as highly moral; 2dly, Surgeons, who prove preliminary education, and are examined during 5 days as to their competency; 3dly, Accoucheurs, being Physicians or Surgeons who have studied Midwifery especially, during six months; 4thly, Assistant-Surgeons, whose principal requisitions are, four years' practice with a master, and the composition of an article before his examiners, as a proof of his ability to write.

Cure of Hoarseness.—The hoarseness proceeding from laryngeal and tracheal inflammation, as well as that of an idiopathic kind caused by long speaking or singing, or that which supervenes during fevers of a typhoid type, has been treated successfully by the external application of croton oil. Dr. Trusen, of Posen, employs friction with from five to ten drops of the oil over the larynx, but over only a small area, as the pustular eruption it causes has a great tendency to spread, particularly in persons with an irritable spine, for whom it ought to be used mixed with olive oil.

Cements for China, &c.—Mr. Rowland recommends the following:—℞. Pulv. Mastic.—Acaciæ, aa. ℥j.—Cretæ. ppt. ℈ij. Misce. This should be kept in powder for use, and when required, it should be made into a stiff paste with a little water. This is a very hard cement, and well adapted for china, glass, &c. India Rubber and Shellac, equal quantities of each, dissolved in naphtha, form a cement, insoluble in boiling water, and on this account invaluable for many purposes.

STATE REPORT UPON THE TREATMENT OF CHRONIC DISEASES BY COLD WATER.

By Dr. GIBERT, of the Hospital St. Louis, Paris.
(Extracted from the Gazette des Hospitaux.)

In consequence of the numerous abuses which had crept into the treatment of the diseases of women, I had for several years directed my attention towards the employment of sedative astringent applications, and especially cold water with a cooling regimen, in the treatment of those nervous affections which are often combined with leucorrheal discharge, and congestion of the neck of the womb. I published an especial article upon these affections, founded principally upon the observations which I had collected at the *Hopital de Lourcine*, and I prevailed upon the management to provide an apparatus for the administration of the cold water *douche*. In 1840, on reviewing a work by Dr. Bigel, on the treatment of diseases by the cold water system, I penned the following observations. "This is a little book containing neither detailed observations on disease, nor accurate diagnostic remarks, which does not disclose the result of post-mortem examinations, nor of arithmetical deduction nor anything, in a word, which constitutes the body and substance of most modern works. But still this is a book containing more good and sound medicine than it is possible to collect in most of the large works published at Paris during the last twenty years. At Graeffenberg, on the summit of a high mountain, guided by the aid alone of experience and of good sense, a peasant of Austrian Silesia, Priessnitz, performs cures which have aroused the attention of all Europe. Cold water, either as drink, or external applications, is the only medicine employed by Priessnitz; such is the simple means by which he succeeds in curing a host of diseases which have resisted the ordinary remedies. "I leave behind me," said a celebrated man when dying, "two grand physicians, diet and water." Priessnitz has availed himself of this heritage. In the same year, when appointed to St. Louis, I resumed the course of instruction so successfully commenced in this hospital by Professor Alibert, and I then took the opportunity of applying the cold water treatment publicly to diseases of the skin. This method rests, as we know, upon two essential points:—1st. The use of cold water either in drink, in the form of *douches*, and in general or partial baths, as lavements, injections, &c. 2nd. The natural transpiration obtained and provoked by means of swathing the body in a covering of wool. Sometimes this covering is applied naked upon the skin; at other times, the body is previously enveloped with a sheet soaked in water. During the whole time that the swathing continues, we give the patient cold water to drink in repeated doses, to allay the thirst, moderate the heat, favour perspiration, and replace the liquid exhaled from the body. In patients, affected principally with dry cutaneous affections, as *psoriasis* and *icthyosa*, when subjected to this operation, it was some time before perspiration showed itself; two, three, four, and even five hours elapsing before this result took place. After allowing them to perspire for a variable time, from half an hour to an hour or more, according to the case, they were carried into the bath. They were then unswathed, and frictions or washings of cold water applied to the body; a cold *douche* was likewise showered upon them from an elevated place, or they were plunged into a cold bath. These experiments were not continued from beyond two to five minutes; after which the patient

dried himself, dressed, and took a little exercise. Several subjects attacked with *lepra inveterata*, and two little girls affected with congenital *icthyosa*, have been subjected to this kind of treatment. All have experienced from it a remarkable amelioration; some have appeared completely cured. This result is so much more remarkable, as it concerns affections usually rebellious to all our modes of treatment. If the hydropathic method does not appear applicable to all cases nor to all subjects, if even it may cause great inconveniences when it is not employed with due prudence; if lastly, and above all, our experiments are still too few and too incomplete to enable us to deduce any rigorous conclusions; we may, at least, affirm at the present moment that no other treatment appears so proper to restore to the skin that state of smoothness, of softness, and of permeability, which is their natural condition, and the re-establishment of which is so difficult to be obtained by our usual methods in subjects affected with diseases of the skin.

Among the obstacles to this method, the most powerful has been the want of co-operation of Dr. Wertheim, who after having studied the method at Graeffenberg, had proposed its adoption at the hospital St. Louis, and had, for several months, zealously superintended its application. Discouraged by the difficulties which he had to encounter, Dr. Wertheim joined myself in demanding from the administration of the hospital, certain ameliorations. While waiting for these improvements, we have thought it our duty to suspend our experiments. I am, therefore, still unable to give an absolute opinion upon the method of Priessnitz. With respect to the statistics requested by the council, I am able to give precise data upon seven patients only, of whom two (*prurigo* and *psoriasis*) have been completely cured; two others (*icthyosa*) have appeared cured, but had a relapse at the end of a few months; two more (*psoriasis*) have experienced a most remarkable improvement, without arriving at a perfect cure; lastly, the seventh was obliged to renounce the treatment which appeared to have an injurious influence upon the state of the chest. Excepting this last case, in all the patients whom we thus treated, (about twelve in number) besides the effects produced on the skin, a most marked improvement was brought about in the general health.

The following are the conclusions at which I have arrived on this subject.—1st. That the treatment of chronic diseases by cold water and a cooling regimen, (following more or less implicitly the practices employed at Graeffenberg,) has produced advantageous results. 2nd. That when it is directed with suitable care, and attended by favourable conditions, it may, without presenting any danger to the patient, produce therapeutic effects, which have not been obtained from the ordinary methods. 3rd. Lastly, that in diseases of the skin, in particular, it may alone induce a cure, or at least concur in rendering it more perfect, when this treatment is used as an auxiliary to the other curative methods.

Rupture of Trachea. In a child, fifteen months of age, labouring under an attack of bronchitis, after a few efforts to cough, an emphysematous tumour suddenly appeared in front of the neck and upper part of the chest. A small incision was made and gave exit to air. The child died on the second day; and on examining the body it was found that the trachea was lacerated to the extent of half an inch, just above the first ring.

ROYAL MEDICO-BOTANICAL SOCIETY.

EARL STANHOPE, PRESIDENT, IN THE CHAIR.

Dr. Hedson read a Paper on the Artemisia Absinthium, and its Preparations, of which the following is an Abstract:—

The Artemisia Absinthium, or common wormwood, has been held in estimation as a medicinal plant, from the earliest period of medico-botanical history; but at the present time it is very little employed in the regular medical practice of this country, although it is extensively used on the continent. All writers agree in ascribing to it tonic properties; but some object to it on account of its unpleasant flavour, and say that, in practice, the more agreeable bitters should be preferred. It is said to render the milk of nurses, who take it, so bitter, that the child is affected by it. Numerous medicinal virtues have been attributed to it, the chief of which are, antiseptic, anthelmintic, deobstruent, tonic and stomachic. It has been employed with success in jaundice, dropsy, gout, worms, dyspepsia, intermittent fevers, and various kinds of cachectic diseases,—in the forms of powder, extract, conserve, tincture, wine, distilled water, essential oil, &c. The doses mentioned by writers on materia medica seem too large, and likely to be offensive to the stomach. The following infusion and tincture have been employed by the author of this paper, with satisfaction:—Infusion of Wormwood. Take of the dried herb, free from the stalk, half a drachm, boiling water, ten ounces; macerate for an hour, and strain. The dose, an ounce and a half three times a-day.—Tincture of Wormwood. Take of the dried herb, free from the stalk, two ounces; rectified spirits, sixteen ounces. Macerate for twelve days, and strain. Dose, from ten to fifteen minims, in an ounce and a half of water, three times a-day. This tincture has a beautiful green colour, and possesses the full aroma of the plant, as well as its bitter flavour. This tincture is the most pleasant preparation of the plant, and is an elegant and excellent stomachic.

Some Remarks on the Sweet Acorns of Portugal, by William Lukin, Esq., were then read:—

The sweet acorns are the fruit of the Dynheiras, the Quercus Ilex of Linnæus. It is a tall forest tree, very frequent in the forests south of the Tagus, but rarely found north of that river. It is extensively planted in the oak-woods of the Alemtego, for the hogs, which are driven in large herds into the woods, to fatten on the fruit.

There are two other trees, quite distinct in character, which produce sweet acorns, and are found in the same woods, but are not frequent.—1. Quercus Rotundifolia, of Lamarck.—2. Quercus Bulleta, of Desfontaines. Broteia, in his Flora Lusitania, considers both these as varieties of the former. They are smaller trees; all three are evergreen; and the acorns so similar, that it is difficult to distinguish between them without seeing the leaves. These acorns, roasted like chesnuts, are served up with the dessert, in Spain and Portugal: they are much eaten by the peasants, who eat them roasted. That the custom of eating these acorns is of some antiquity, may be seen by referring to a very humorous letter in "Don Quixote," in which Cervantes represents Theresa Panza as sending a peck of ballotas to the Duchess, in acknowledgment of the hospitable reception her husband, Sancho, had met with at the castle.

Among the presents announced during the meeting, were some very fine specimens of the the new salts of iron, from Mr. Bullock, of Conduit-street.

CASE OF HYDROPHOBIA.

By William Henry Booth, M.R.C.S., West Bar, Sheffield.

The subject of the following remarks, is a case of hydrophobia, with which I became acquainted on the night of Thursday, January 26th, 1843. The patient was a boy, of the name of Jabez Robinson, aged seven years and a half. As he was returning from school on the morning of the 10th of December, 1842, crossing a field leading to his home, a small terrier dog, belonging to a neighbour, attacked him, and bit him in several parts of his body, viz., the arms, legs, and face. The boy attempted to take refuge in some water, which was near, into which the dog followed him. The animal there continued its attack, until a man, who was working by and saw the dog have the boy down upon the sand-bank, near the water, immediately approached the spot, with a stick in one hand and a stone in the other. The dog immediately ran off, recrossing the water. The boy was bleeding very profusely from the wounds inflicted. He was immediately conveyed to the Sheffield General Infirmary, where, I understand from Mr. Law, house surgeon to the establishment, the actual cautery was applied to the parts bitten. He remained a patient, under the care of Wilson Overend, Esq., and Mr. Law, until Friday, January 20th, 1843, when he was made an out patient. After he got home he complained of sickness, and appeared very listless and poorly. On Thursday morning, January 26th, the father applied to Mr. Law, at the Infirmary, stating that his son was very poorly, when Mr. Law prescribed two powders considering him to be suffering from fever, the effect of cold. On the night of Thursday, January 26th, the father came to me, and desired that I would go to Slack Work, near Owlerton, to see his son, who he stated was affected in a very curious manner. He also stated that his boy had been bitten six weeks and five days, previously, by a dog, and that he had shortness of breathing and sobbing. I immediately went, along with a professional friend, and found him suffering from all the symptoms of that dreaded malady hydrophobia, for he evinced a dread of fluids, and great difficulty in swallowing the same. He was very much excited by currents of air, he complained severely as if suffering a sense of suffocation, when any person was moving quickly about him, and when the door was open, all which tended to the disturbing of the functions of respiration; his pulse was from 110 to 112, quick and full. Tongue dry and furred. Complained of great thirst. These symptoms, up to the time of his death, which was at half-past seven on the following morning, Friday January 27th, increased, and he became very violent. He did not sleep from early on Thursday morning up to his death, although I prescribed opiates in full doses. All the time of his suffering, he appeared much disturbed by strangers, yet complained of no pain in any organ except the front part of the head, and that only occasionally. He was not able to put out his tongue, it was drawn to the left side of the mouth. He was frequently sick, and occasionally vomited saliva. He was sensible up to a short time before his death, but appeared to die in a paroxysm.

Inspection of the body 30 hours after death.—There was considerable evidence of the boy having been stout and healthy previous to the fatal disaster. Decomposition had not taken place on any part of the body. The number of cicatrices amounted from fourteen to sixteen, the largest being upon the calf of the left leg and right arm.

Cerebrum.—Upon removing the calvarium, there was a considerable discharge of dark-

...ated blood, which I suppose must have ...ned from some lacerated veins. The ... mater, as well as the other mem...es of the brain was very vascular, and ... congested with dark blood. The surface ...e brain was very vascular. There were ...numerous deposits of lymph. Upon slic... into the substance of the brain, there was ...mmense number of bloody points. Ventri... contained no fluid. Choroid plexus na...

...rebellum.—The cerebellum, medulla ob...ata, and about one and a half inch of the ...lla spinalis, were removed, and appeared ... very vascular, and much congested, but ... more so than the cerebrum. The pons ...ii was very vascular, the structure of the ...bellum rather softened.

...arynx.—Larynx removed together with the ...ynx. The lining membrane of the larynx ...pharynx were much congested, or inflamed, ... there appeared some constriction about ...lottis.

...horax.—Heart natural. Lung presented a ... dark appearance, and when cut into, ap...ed to contain a large quantity of blood.

...bdomen.—Liver rather paler than natural. ...-bladder distended with bile. Stomach ...œsophagus of a natural appearance, the ...er being quite empty. Intestines natural ...ppearance. Kidneys healthy. Bladder ...racted.

...S.—This is the second case which has fallen ...r my care within a very few weeks.

LONDON HOSPITAL.

...EMARKABLE CASE OF CONSTIPATION.

... B. aged 10, was a patient of Dr. Cobb.

...story.—He had always been a weak ...y child, and had been from infancy pecu... liable to a torpid condition of the bowels, ...y having an evacuation without the use of ...atives or enemata.

... year ago the constipation lasted for 9 ...s, but finally yielded to the sulphate of ...esia in ounce doses.

...evious to his admission into the hospital, ...eeks had elapsed without his having a ...e evacuation. His abdomen was very ...l, and resonant on percussion along the ...e of the colon. His constitutional symp... were by no means so severe as might ... been anticipated.

...emata of soap and water, combined occa...lly with turpentine, were ordered; the ... matter within reach being first removed ...eans of a director: it was as hard as a ... The injections were readily returned, ...ing with them occasionally scybalæ of ...t an inch in diameter.

... Cobb suspecting that organic disease ...ed, refrained from active treatment, em...ng merely small doses of magnes. sulph. ...nnel roller was also applied to the abdo... but was soon obliged to be removed as it ...d a good deal of pain. Warm baths were ...ionally used, but no benefit resulted; for ... being 10 weeks in the hospital, and 17 ...s without any evacuation, he died in great ...y.

...spection.—Body externally emaciated: ...men much distended, and its parietes very ...uated. On opening into its cavity, *no ...tum nor small intestine could be seen*, being ...pletely hid from view by the enormously ...rged state of the colon.

...e sigmoid flexure was 16½ inches in cir...ference; the rest of the colon much the ... size, while the cæcum was greater by ½ ... inch.

... one or two places the peritoneum had actually given way, such was the degree of distension it had been subjected to.

On being emptied of their contents, 13 quarts of dark, soft, feculent matter were collected in pails. All the other viscera were healthy.

HYDROCELE.

James Robinson, aged 65, was admitted under Mr. Andrews in September, 1842, with a contused leg. He was also found to have an enormous hydrocele, reaching half-way to his knees; he says he has had it for 10 years, but finding little inconvenience from it, has never had anything done for it. He now consents to have the fluid evacuated. Mr. Wildash, dresser, performed the operation; 52 ounces of a clear yellowish fluid were collected.

Some months ago, I saw Mr. Luke tap a hydrocele for a young man, æt. 20; thirty-two ounces of fluid were collected!

I mention these cases, only, because the amount of fluid evacuated in both appears to me unusually large.

HUNTERIAN ORATION.

Delivered at the Royal College of Surgeons, Feb. 14
by J. M. ARNOTT, Esq. &c.

THE pleasant duty which has devolved upon me is not unmingled with sorrow. If it is instructive to dwell upon the merits of that great name which has to-day assembled us together—if it is agreeable to trace the steps of genius, forcing its way from utter oblivion into the meridian blaze of fame, until it has become impossible to discuss the science of surgery without pronouncing the name of John Hunter—it is with regret that we must recount the losses we have recently sustained—the gaps not easily filled up—which death has made in our ranks.

At our last anniversary we had to deplore the loss of Sir Astley Cooper, a man for whom scarcely any panegyric can be too strong, since his fame as a practical surgeon was limited only by the boundaries of the civilised world. This year we have to lament the decease of one whose merits were equally great, but in a different domain of knowledge—Sir Charles Bell, whose transcendant reputation as a physiologist has, with the mass at least, eclipsed his eminent deserts as a surgeon. Sir Charles Bell, though not a pupil, revered the memory of his great predecessor, for if the phrase *damnant quod non intelligunt* aptly describes the judgment of the multitude, it is equally true that it requires high, and, perhaps, kindred talent, to estimate genius at its full worth.

Sir Charles Bell was born in 1775, and after studying some years at the High School of Edinburgh, he began the study of anatomy under his brother John. That brother, twelve years older than himself, was already in high repute both as a surgeon and as a lecturer. The instructions of such a teacher would rarely have been without profit by an ordinary pupil, and their effect on Charles Bell was the publication in his 22d year of the first volume of the system of Dissections, a work marked by his characteristic originality. At an early age he was appointed surgeon to the Royal Infirmary; but the feuds which at that time distracted the profession in Edinburgh as well as in other places, induced him to try his chance in the metropolis of the world, and Mr. Bell came to London in 1806. The rest of his career is well known to you—at any rate it is unnecessary to dwell on all the professorships which he held, or the other marks of public distinction which were heaped upon him. I will content myself with touching upon a few of the more prominent parts of his genius and character.

As a surgeon, Sir C. Bell ranks high, if not the first, in the very first line. His letters on the diseases of the urethra, his surgical observations, and other works, show how deeply he had studied, and how diligently he had practised the art which he professed. His dexterity, and his coolness as an operator, were remarkable, yet he went to operations with the reluctance of one who has to face an unavoidable evil, in this respect resembling Hunter, and many other first-rate surgeons. Like Cheselden, who is said always to have turned pale when about to cut for the stone, Bell's cheek was often seen to blanch as he was proceeding to operations performed with the utmost self possession and skill. As the fruits of the zeal with which Mr. Bell cultivated surgery, I may instance his hurrying to Haslar after the Battle of Corunna, and to Waterloo after that of the 18th of June, in order to study gun-shot wounds. Still more eminent was he as a teacher of anatomy, and in the lecture room he shone almost without a rival; his views were nearly all solid, and always ingenious, while his manner enchained the attention of his audience. Dull, indeed, must have been the pupil who could have slumbered when Sir Charles Bell was in the professional chair. In his hands dry bones lived again, his imagination clothing them with the texture which had once invested them. A muscle was no longer a mere bundle of fibres, rising here and inserted there; it was a guide to the surgeon's knife in some important operation, or kindling with his own fire, betrayed by the anatomy of its expression the emotion that was enclosed within. The flaccid artery on the table spirted forth its crimson stream, and demanded the arresting hand of the skilful surgeon. He made descriptive anatomy at once interesting and instructive to his pupils, and taught them to rest more surely upon it as a guide to the healing art, and though his impressive tones, which gave such effect to his teachings, have passed from amongst us, yet his fame will still live in the affections of his contemporaries, and he will be remembered by posterity as the discoverer of the varied functions of the nervous system.

Let me now be permitted to make an observation or two on the opinions of physiologists that have been given out on this subject, both before and since the publication of Sir Charles Bell's works. It is, now, generally admitted that the anterior nerves possess the power of controlling motion, while the posterior have the power of governing sensation. It had formerly been thought that each spinal nerve possessed in common the power of ruling both motion and sensation, and in some cases additional functions were attributed to it. This may be called the popular theory. Yet occasional glimpses of the truth were in a manner forced upon reflective physiologists. For the ordinary theory was obviously insufficient to explain why sensation remains in a paralytic limb when the power of motion is lost, and why, on the other hand, motion survives feeling in cases of another kind.

But although it had been supposed by some that the nerves of motion were distinct from those of sensation, no progress had been made in pointing out the principle in the anatomy on which it depends that one nerve communicate sensation, another motion; and the singularly original remarks of John Hunter, in his paper on the nerves of the organs of smell had fallen unproductive—they had not met with a congenial soil.

At an early period the intricacy, multiplicity of arrangement, and distribution of the nerves, had engaged the eager attention of Sir Charles Bell, and I have it from one who so far back as the year 1806, had repeatedly seen him rise from the contemplation of the subject with the exclamation,—"I must make something out of these nerves;" and already, in 1807, he had got a glimpse of the principles of his subsequent researches, as the extracts which I am about to read will shew. They are from letters addressed by Sir Charles Bell to his brother George Joseph Bell, then at the Scotch bar, and now Professor of Law in the University of Edinburgh. Fortunately these letters were written before the use of envelopes, and the first letter from which I quote, bears the Edinburgh and London post mark of December, 1807. Mr. Arnott here read the letter. In another, post mark also, March 1809, Sir Charles, then Mr. Bell, says, "that he has some idea of having a room five or six miles from town, and there prosecute his enquiries on the nervous system—that which is to make me, I am convinced." This may be called the second sight of genius.

At length in an essay entitled Idea of a New

Anatomy of the Brain, printed in 1811, Sir Charles Bell developed some of the principles which were destined to exercise so great an influence on the theory of the nervous system.

Having called attention to the prevailing doctrine of the anatomical school, that the whole brain is a common reservoir, and that the mind, by the same nerve which conveys sensations, sends out the mandates of the will to the moving power; we proceed to state in our opinion that the parts of the cerebrum have different functions, and that the nerves which we trace in the body are not single nerves possessing various powers, but bundles of different nerves, whose filaments are united for the convenience of distribution, but which are as distinct in office as they are in origin from the brain. He re-called attention to the fact of the spinal marrow being divided into an anterior and posterior fasciculus. We proceed to relate how he was led thereby to make experiments, of which he describes the results on the anterior and posterior columns of the spinal marrow, and on the anterior and posterior roots of the spinal nerves, and how he came to the conclusions, that every part possessing a double function, obtained that by having a double root.

Adhering to the important principle thus clearly laid down, Bell next directed his inquiries to the facial nerves, and aided by his indefatigable pupil and coadjutor, Mr. John Shaw, instituted experiments to assist him in determining their functions, more especially those of the portio dura of the 7th, and of the 5th pair. And happily he did so, for without the fortunate circumstance, that in certain parts of the body, especially on the face, the nerves of sensation and motion are distinct throughout their whole course, his great discovery could never have been clearly established.

The results were communicated to the Royal Society in a paper read before that body in 1821, and afterwards succeeded by others. Notwithstanding the novel and important matter which it contained, the "idea of a new anatomy of the brain" failed to attract attention. Not so the first paper, which appeared in the philosophical transactions. His views and opinions were now questioned, doubted, denied; then a certain amount of truth allowed to them—and, ultimately the real and substantial credit of a patient, laborious, and original enquiry was attempted to be wrested from him and attributed to others whose single merit in the part, at least of physiology, consisted in their adoption of that key which Bell had invented, fashioned, and shewn how to use—a key without which the secrets of the nervous system, so far as they are now known, had probably yet remained concealed.

In estimating Bell's claims as a physiologist, we are not called upon to regard these memoirs on the nervous system as complete and perfect. Along with all that is distinct and precise, we may allow that there are some allegations not quite specific; allegations which a mind more severely disciplined might not have hazarded. We may grant that the function of the posterior roots of the spinal nerves were therein suggested, rather than positively stated. We may acknowledge, as he himself did acknowledge, that he misinterpreted an experiment in his first attempt at proving that which he afterwards did prove through Mr. John Shaw, that the fifth nerve is a nerve of motion, as well as sensation; and we may agree in receiving with doubt, or at least, without conviction, as not yet proved, his views with respect to certain nerves being superadded in the higher class of a vertebrate animal with a distinct tract or column in the brain and spinal marrow, for the purpose of respiration.

But after all these acknowledgements, there remains to him, clearly and unequivocally, the merit of having first shewn and established, that, in investigating the functions of the nervous system, we must direct our attention to the roots, and not to the trunk, of the nerve.

That the nervous trunk, conveying motion and sensation, consists of two distinct sets of filaments in the same sheath.

That the filaments for motion form a distinct root from those for sensation,—and that the anterior roots of the spinal nerves are for motion, leaving it to be inferred that the posterior were for sensation.

That the *portio dura* was a nerve of motion; and the fifth, a nerve both of sensation and motion.

And, lastly, of having been the first who, dissatisfied with the observation and study of the mere form of the various parts of the nervous system, applied the method of experiment to aid him in determining their functions.

In a word, there belongs to Bell the great discovery—the greatest in the physiology of the nervous system for twenty centuries—that distinct portions of that system are appropriated to the exercise of different functions.

Very valuable practical precepts were immediately drawn and applied by Sir C. Bell and Mr. J. Shaw, from these discoveries. Perhaps, the most important was, the distinction of a local nervous affection from that which depends on disease of the brain. I will not detain you with the recital of the cases of this kind, which, since the introduction of this new principle in the recognition and diagnosis of nervous diseases, have been accumulated of late years in the records of medicine. This doctrine, however, and the consequences which ignorance of it leads to, is illustrated by a remarkable anecdote, in a work where we do not usually look for physiological instruction; and, as the story is little known, I will take the liberty of narrating it.

A physician in Paris, on visiting a case, found an Abbé playing at cards in the patient's chamber. Struck by the unfavourable aspect of the Abbe's face, he informed him that he had not a moment to lose, but must be carried home immediately. The Abbé, overpowered with terror, was taken to his lodging, where for several days he was bled, cupped, and purged, till he was brought to the brink of the grave; yet his face still bore the appearance which had so much alarmed the physician. The brother of the of patient at length arrived from a distant part of France, (there were no railways in those days) and asked what was the matter with his unfortunate relative. "Don't you see," said the bystanders, "his mouth is all on one side?" "Alas!" he replied, "my poor brother has had his mouth on one side these forty years." Such cases will, in future, present no difficulty, even to the beginner; and we recognize at once, in Charles Bell, the great characteristic of genius, that of giving the clearness of certainty to what before was either utterly unknown, or but obscurely suspected.

Even supposing, however, that this was the sole practical lesson as yet deduced from Sir C. Bell's discoveries, it would be unjust to measure their merit by this alone.

Independently of the direct instruction to be derived from them, they have brought physiologists into the true path; and should the dim veil which nature has thrown over the operations of the nervous system be once drawn up, it will ever be remembered who first constructed the machinery for raising it.

It is agreeable and instructive to remark and to remember that Sir C. Bell did not make very numerous experiments on living animals; but guided by a careful study of the anatomy of the parts, and reflecting on the spontaneous experiments, so to speak, furnished by disease, he was led to form views which supported by a few well considered and well planned experiments, discovered to him the truth, and enabled him to convert the guesses of former observers into admitted facts.

Had Sir C. Bell not been a surgeon or a physiologist, he might have been an artist, so admirable were his drawings, so exquisite his perception of the beautiful. This talent was with him a favourite, and might be cited as an instance of "the ruling passion strong in death;" for he was employed in sketching the gay scenery of Worcestershire but a few hours before his decease.

His love of art led him to Italy in the Summer of 1840, that he might become more intimately acquainted with the master-peices that enrich it.

During this tour he kept a journal, which I have had the gratification of seeing; it consists of three large books of sketches with remarks, illustrated by numerous sketches.

He passed through Paris and Lyons, a[nd en]tered Italy by way of Geneva. Here [he was] struck by the contrast between streets as [...] as "Blackford Wynd" and the gorgeous [archi]tecture of the palaces which flank them. [His] hotel had once been a palace, and as he sa[t on a] velvet cushion in an arm-chair of gold, [while a] fountain played from a marble lion, and [the] vivid light was moderated by orange trees a[nd] curtains, he felt he was in Genoa *la superba*.

He enjoyed what he calls "a day of Rap[hael in] the Vatican," and he was worthy of enjoy[ing it]. His piercing eye detected, as we might [expect], some errors in the anatomy of Raphael's dra[wings]; "but do not think of that," he adds "but [...] fine comprehension of nature, the feeling a[nd un]derstanding of the human family. Man app[ears a] superb creature in the Vatican."

On the last day which he spent in Ro[me he] stood by the Palace of the Cæsars, from wh[ence he] took his sketch of the Colliseum. "It is a [place]" he says, "to raise strange and solemn thou[ghts;] a mountain has been formed there by ruin[s, now] covered with vineyards and cultivated [...] "Pillars and ruined cornices make the w[alls] even, and the acanthus is growing by the [side of] the broken capital on which it is chiselled."

So much inventive genius, and such indefat[igable] industry are rarely united in the same perso[n; and] when we add the warmth of his friendshi[p, and] among his lesser qualities, the exquisite refin[ement] of his taste, the combination is not often to [be pa]ralleled. He had some of the irritability t[hat] often accompanies genius; yet take him [as he] was, he has left a blank not easily to be [filled] up, either in the republic of science or the [circle] of his friends.

I need not apologise, I think, for the len[gth at] which I have discussed the merits of this il[lustri]ous fellow-labourer; for the very conditi[ons of] my office require that I should celebrate the [merits] of those persons recently deceased, whose la[bours] shall have or may have, contributed to th[e im]provement or extension of chirurgical science.

[A pressure of important matter reluc[tantly] compels us to postpone the remainder of thi[s valu]able oration till next week. We may m[ention] that we owe our report to the same shor[t-hand] writer who furnished us with Dr. M. Hall['s lec]tures.]

PERISCOPE OF THE WEEK.

PATHOLOGY OF DEAFNESS.—Dr. Bo[...]leck, of the University of Prague, from a[n analysis] of ten cases, which he describes, conclude[s that] the most common cause of deafness is a[bsence] of one or more of the semicircular cana[ls, or] their imperfect development or destructi[on by] disease. In the third case, indeed, the [semi]circular canals with the exception of th[e] aqueducts (which were wanting), were he[althy;] the deafness seemed to be connected with a [state] of idiotcy. In the fourth case the whole [of the] internal parts of the ear were destroye[d by] disease. It may be worthy of further in[quiry] how far a circumstance noticed by the a[uthor] may exist in cases of congenital deafnes[s. He] observed in five cases that the anastom[otic] branch sent to the facial from the auditory [nerve] near the internal auditory foramen was g[reatly] enlarged at the expense of the auditory [...]

TINEA FAVOSA.—A divison of the Ge[neral] Hospital, Vienna, is set apart for the treat[ment] of chronic diseases of the skin, and the ex[peri]ments there made in the treatment of [tinea] favosa seem to show that the local applic[ation] of caustics (lunar caustic, caustic potass, [...]) is the only mode of treatment followe[d by] beneficial results. Several cases were [cured] within two months by the local use of [sa]turated tincture of iodine.

SCROFULOUS DISEASES OF THE JOIN[TS.—] All who have studied the history of ab[scesses] know that those purulent collections whic[h are] the result of acute inflammation are cur[...]

n more or less quickly, and that scrofulous cesses are seldom cured, until they have be-ne the seat of this acute inflammation — nce, I was led to employ irritant injections cases of scrofulous abscess of the joints, for purpose of exciting that degree of irritation ich is indispensable to their cure.—I shall ide the cases in which this mode of treat-nt was employed into two classes—viz., those iting to children, and those of adults.— Bonnet of Lyons from the fact that scrofu-s abscesses are seldom cured till they be-ne the seat of acute inflammation was lead he use of iodine injection in cases of chil-n, he avoided meddling with such as were accompanied by tumefaction of the cellular ue and signs of thickening of the synovial mbrane, for he felt convinced that the atment was not suited to cases of this kind. vas restricted to scrofulous abscesses of the e-joint, accompanied by swelling of the it, evident symptoms of suppuration, and formation of fungoid or lardaceous tis-s in the synovial membranes and neighbour-parts. The following is one of those cases strative of the effects of this mode of treat-nt:—Mary Notas, seven years of age, of phatic temperament, was admitted into pital on the 7th of March, 1841. This ld never had any scrofulous affection. The is flexed on the thigh; the knee painful, l fluctuation is felt on the inner side of the it. The disease commenced two months viously without any apparent cause.—March The tumour was punctured, and some thin discharged; alcohol at 32 deg. was in-ted; the reaction was very slight.—15. The nour was again punctured and alcohol in-ted as before: the operation was not fol-ed by any unpleasant symptom; the skin the joint was attacked by slight inflamma-1. Gentle pressure was now exercised by ans of a bandage.—On the 6th of May the ient was discharged in the following state: e knee is restored to its normal condition; patella, which previously adhered to the dyles, is now perfectly moveable; no sense luctuation; flexion and extension unattended h pain and freely executed; the patient lks well, but the knee is a little stiff; a ght discharge of serous fluid still takes place m the last puncture.—In this and two other es the only ones in which he employed the itating injections, the injection of pure alcohol of a saturated tincture of iodine produced no ere inflammation. This is easily explained. e surface of abscess is always lined by false mbrane of some thickness; and, on the ier hand, irritants act with little force on sons of scrofulous constitution.—As to e effects of the treatment, the cases shew t even after the injection of stimulating ids the abscesses had a tendency to remain tionary, and it was necessary to repeat them re than once. This treatment, he says, ex-ded over a period of two or three months, l even then a perfect cure was not obtained; t the disease was considerably mitigated, and seems probable that in country air and with e aid of the usual means for improving the neral health, a cure might be obtained within elve months.

Cure of Ectropion by Nitrate of lver.—M. Magne was consulted in the case a child, where the use of the scalpel being erdicted by the parents. Dr. Magne was mpelled to depend for the local treatment lely on caustic. This he applied with great cision to both the palpebral and ocular con-nctiva; and to combat the inflammation ap-ehended from this treatment, ordered frequent ot-baths, and compresses moistened with fresh alder flower-water, to be applied continually to the eye. The process of cauterisation was renewed daily for a fortnight, at the end of which period the granulation had disappeared, leaving only a few whitish eschars on the con-junctiva, and the child was soon afterwards sent away for change of air. Three months after-wards M. Magne again saw his patient, and reports that no trace of previous ectropion re-mained. On drawing forwards the lower eyelid, two new membranous adhesions (brides), similar in appearance to the healthy membrane were seen to have been formed near the ex-ternal angle of the eye, and united the pal-pebral and ocular conjunctivæ maintaining the eyelid in its proper situation, while the motions of the eyeball were not in any way interfered with. M. Magne has since treated other patients successfully by similar means. He states that in such cases, during the employ-ment of the caustic, he finds it good practice to employ cupping between the shoulders, fre-quent warm foot-baths, and the effusion of cold water to the face and forehead, of course to prevent the access of local inflammation as much as possible.

Physiology of Menstruation.—Dr. Ra-ciborski communicates the following conclu-sions. Very intimate relations exist between the catamenia and the graafian vesicles; men-struation begins at the period when these are fully developed and ceases when they are effete (detruits). At each menstrual period one of these vesicles swells and projects from the sur-face of the ovary, from which it escapes by the rupture of its sac, usually about the end of the menstrual flow, without male congress or other sexual excitement. The vesicle which thus escapes has anatomical characters precisely similar to those of the corpus luteum supposed to be formed after conception. Diseases arrest the development of the vesicles, and it is in this arrest that the true cause of amenorrhœa is in many cases to be sought; for the catamenial flow is the result of the sanguineous conges-tion of the internal generative organs, by which the development of the vesicle in its highest degree is accompanied. The state of the ovaries is so intimately connected with the general health of an individual, that the in-ternal appearance of these organs after death is said by Raciborski to be alone adequate to determine whether the patient has sunk under an acute or a chronic disease, or whether she has lately menstruated regularly. Phenomena analogous to those specified above as occurring in the human female at the menstrual period, are noticed also in animals during their rutting season. Among these the ovarian vesicles are found to increase gradually in size during the interval between the rutting epochs; and they ultimately escape altogether at these epochs without congress of the male. The spontaneous detachment of the human ovum at the end of the menstrual epoch naturally renders that period the most favour-able for impregnation, and readily yields a rea-son for the fact that conception is most com-monly referred to that epoch by pregnant women. "Of 15 women (says Dr. R.) who specified acurately the period of their latest menstruation, as well as the dates of the con-nubial act, 5 evidently conceived from coitus taking place from two to four days previous to the period at which the catamenia was due. In 7, conception dated from coitus occurring two or three days after menstruation; in 2, it took place at the actual period of the catamenia; and in one only so long as ten days after the latter had disappeared. —Considered with respect to her generative function, woman holds a place intermediate between rutting animals, which are capable of impregnation only at fixed seasons of the year, and those animals in which a coitus only is re-quired to produce impregnation at any season She, however, approaches much nearer in point of this analogy to the former class, her power of reproduction being infinitely the more active at her menstrual periods to which the rutting time in brutes bears a strict physiolo-gical resemblance.

The Urine.—The essential component parts of the animal matter of bile and of urine are complementary of each other; taken toge-ther they correspond with, or are equal to, the chemical components of the organised tissues, or, which is the same thing, of the blood itself. The cast-off materials of the vital tissues are thus divided between urine on the one hand, and bile on the other. This occurs in the adult; it occurs also in the fœtus; for the animal matter of the allantoid fluid and of meconium or of the urine and meconium, are also, with very slight modifications equivalent to the essential animalised constituents of the blood, and to those of the vital tissues. The nitrogenised constituents of the urine are the products of the oxidation of a part of the mate-rials cast off from the tissues, produced during the incessant change of matter which accom-panies assimilation and growth in the living being; they constitute that part of the hitherto organised molecules which are incapable of any further use in the economy; and they are accordingly first dissolved, and then expelled from the body. The true origin and the final purpose of the secretion of urine, as thus ex-pounded, is substantiated by numerous con-siderations. The quantity of azotised materials which this fluid contains, evacuated at any particular time, bears no proportion to the amount of food ingested during the same period. The man who takes much exercise and little food, secretes more urea than a highly-fed individual who takes no exercise. During rapid emaciation the urine contains more urea than in health. In fever and star-vation, where no food is received into the sys-tem, the formation and excretion of urea con-tinues. An intimate acquaintance with the whole of these phenomena establishes it as a fact, that the quantity of the azotised com-pounds in the urine bears a direct relation to the change of matter in the vital tissues.

Nervous Matter.—It is constituted of a considerable proportion of albumen, and of two fatty acids, distinguished from other fats by the existence of phosphorus or phosphoric acid as a component part. One of these, the cere-bric acid, contains nitrogen, and is combined with soda, other fats being compounds of fatty acids with glycerule, and containing no ni-trogen: it approaches in composition more nearly to the choleic acid of bile than to any-thing else, although the two substances are quite distinct. Liebig remarks, respecting ner-vous matter, that it is, at all events, formed in a manner similar to that in which bile is pro-duced, either by the separation of a highly ni-trogenised compound from the constituents of blood—from fibrin, for instance—or by the combination of an azotised compound proceed-ing from the change of matter in the tissues, with a non-azotised and probably a fatty com-pound. Looking to its composition, the for-mation of nervous matter, in contra-distinction to that of some of the other tissues above cited, pre-supposes some change in the composition and qualities of the constituents of the blood. Liebig deems it highly probable that an accu-rate examination would develop differences in the composition of nerves, brain, and spinal marrow.

CREOSOTE IN PURPURA.—Mr. Whitwell, of Marylebone Infirmary, gives several cases of Purpura, which he states to have cured, by giving creosote in half-minim doses, with sufficient rectified spirits to suspend it in an ounce and a half of mucilaginous mixture, repeated every six hours. He suggests its probable efficacy in sea scurvy.

CONGESTIVE PNEUMONIA, CONSEQUENT UPON OPERATIONS, &c.—Mr. Erichsen read a paper read on this subject, at the Medico-Chirurgical Society. The following is the secretary's abstract:—The object of the author is to show that in the diseases and injuries which usually come under the care of the surgeon, and in operations generally, a form of inflammation of the lungs, characterized by its asthenic nature, and different from that which is dependent on the absorption of pus, is a frequent attendant. The kind of inflammation to which he adverts is distinct from active idiopathic pneumonia, and resembles more nearly that condition of the lungs which is stated by some authors to be frequently found in typhus fever, and other diseases, attended by much debility of the system. While possessing several characters distinct from those of passive congestion produced by mere mechanical causes, "congestive pneumonia," is especially marked by an engorged and condensed condition of an considerable part, and that, most frequently, the inferior and posterior part of these organs. The blood, the author says, under the influence of depressing causes, chiefly attributed by him to confinement in the recumbent position in the impure atmosphere of an hospital or sick-room, and to the irritative fever consequent upon wounds or profuse discharges, stagnates in the lungs; a degree of irritation is consequently set up, and inflammation of a passive type is excited. In the first stage the affected parts are of a livid violet, or purple-mottled colour, heavy, compact, but friable, readily breaking down into a grumous pulp, and scarcely crepitating when pressed upon, but exuding a very considerable quantity of thin, spumous, frothy fluid. In the second stage the tissue of the organ is more dense, but still very friable; it does not crepitate, but sinks in water, and when cut into, the sides of the incision present a smooth, uniform, black aspect, to be attributed to a highly gorged state of the capillary net-work of the lungs compressing the air-cells, which are either empty or contain, at most, a thin serous fluid. In order to establish his proposition, that this kind of pneumonia is prevalent in cases of surgical complaints of the miscellaneous description implied by the title of his paper, he presents a table containing a record of 62 post-mortem examinations of the lungs in patients who had been treated in the surgical wards of the University College Hospital. The list was made without selection, and is composed of a series of diseases, injuries, and operations of the varied nature, as to kind, duration, and fatal character, usually met with together, in an hospital. Burns, which are a special kind of injury, are not included in it, nor are the symptoms of the patients during life, or the morbid appearances found in other organs besides the lungs. He arranges his cases into four classes, and finds, first, that of those in which the presence of a pneumonia was evinced by the diseased condition being confined to one lung, by its having advanced to solidification, or by its being combined with inflammation of the pleura, or bronchial mucous membrane; these are 28 cases, or nearly one-half of the total number. Secondly, that of doubtful cases, in which the lungs presented the characters common to the first stage of pneumonia, and to passive congestion, without there being collateral signs to establish the diagnosis, these are 11. Thirdly, that of cases in which the lungs were diseased, but not inflamed or congested, these are 9. Lastly, that of cases in which the lungs were found perfectly healthy, these are 14. He further states that of the 28 cases included in the first class, the pneumonia had advanced in 17, to the second stage of hepatisation.

MEDICAL NEWS.

PARIS ACADEMY OF SCIENCES, Jan. 30.—An account was given of some experiments by MM. Sandras and Bouchardat, with a view to ascertain the mode of absorption of the different elements of nutrition contained in the principal articles of food used by man or the lower animals. Taking as a basis that soluble aliments are absorbed by the veins, and insoluble aliments by the chyliferous tubes, it remained to be ascertained in what way nature had provided the means of rendering certain aliments soluble, or of separating them to such a degree as to enable them to pass through the chyliferous tubes. MM. Sandras and Bouchardat divided their experiments into two series; one chemical, the other physiological. The chemical experiments showed the action which water slightly acidulated by chloridric acid exercises upon the fibrine, albumine, caseum, gluten, and the gelatinous tissues. All these substances enlarge, and become translucent, and some of them dissolve. It is sufficient, in order to produce most of these phenomena, to add to 10,000 grammes of water, six grammes of hydrochloric acid, but it was found necessary in order completely to dissolve the fibrine to add a few drops of rennet. Hydrochloric acid, therefore, is not the dissolving agent in the gastric juice; the animal matter called pepsine or chymosine, must also be present. This being admitted, it appears probable, from the experiments of Messieurs Sandras and Bouchardat, that neutral azoted animal substances when once dissolved in the stomach pass directly into the veins. This is the case with gluten. Starch and fecula are wholly or partially converted into lactic acid in the stomach, and are absorbed in this form.—Neither starch nor sugar is found in the chyle during a course of feculent alimentation. Greasy substances resist the action of the stomach, and pass into the intestinal canal, where they form a sort of thick cream, and at the same time the chyle, under their influence, develops itself in extraordinary abundance in globules capable of rendering them milky and opaque. According to MM. Sandras and Bouchardat, therefore, greasy substances are the main agents in the production of chyle, so necessary for the process of digestion. A communication was read relative to some experiments on the blood, by MM. Andral and Gavarret. These gentlemen, forcibly struck with the fact that a learned professor had succeeded in precipitating albumine in the form of globules, by adding a sufficient quantity of water to serum neutralised by an acid, repeated M. Leibig's experiment, and were not a little surprised to find that the globulous bodies, which developed themselves in the serum of the blood, were nothing less than the first rudiments of the vegetable of fermentation. Their experiments were repeated on the white of an egg, and on various serosities produced by disease, and the result is that, whatever may be the albuminous liquid, the alkaline property of which is removed by an acid, the same phenomenon presents itself.

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SUMMARY.

ANALYSIS OF MORBID PHENOMENA.

NOMENCLATURE.—BY W. FARR, ESQ.

(Extracted from the Registrar General's Annual Report.)

It will be observed that the preceding alphabetical list contains more diseases than the nosology, and the nosology more than the abstracts; to explain this, and to show how the list of the causes of death may be legitimately extended or contracted, it will be useful to inquire how diseases have been named, or upon what principles, morbid phenomena have been grouped and subdivided. I shall therefore pass rapidly in review the elementary phenomena of disease, and consider more particularly how the numerous and, in some instances, apparently arbitrary species have been distinguished by original and systematic writers; for without admitting the assertion, repeated by Cullen, that "species are created by nature; genera by the human mind,"†—as our ideas both of species and genera are creations of external nature and of the percipient mind,—the determination of these primary elements of generalization is unquestionably more important than the subsequent steps in the process, because an error here will be irreparable. The species in the statistical nosology occur in the registers as well as in all the systematic medical works; and my object is not so much to propose anything new either in the names or the species (it being the very nature of an arrangement of the facts observed by all the practitioners of a country, to follow, as the observers themselves follow, the discoveries of pathology), as to point out some of the principles which have guided us in the distinction of species, and in the formation of other divisions of the classification.

The human body consists of atoms of various kinds in certain degrees of proximity—in a polarity—and in relative positions—which probably determine the properties of the organization, considered in reference to its various parts, and to the external world, from which it is constantly receiving, and to which it is incessantly rendering, its elements. The constituent atoms of oxygen, hydrogen, carbon, nitrogen, phosphorus, sulphur, iron, calcium, magnesium, potassium, and sodium, exist in fluid or solid compounds—the result of a long series of metamorphoses—in the earth, atmosphere, plants, and inferior animals. The fluid compounds are blood. The solids, which, according to a recent theory, consist of cells, may be divided into cellular, mucous, fibrous, horny, cartilaginous, osseous, muscular, vascular, nervous tissues; and the blood, apparently a homogeneous liquid, perpetually undergoing transformations, readily separates out of the vessels into a clot of fibrine, entangling globules (cells?), and into serum, containing dissolved albumen, with carbonates, phosphates, muriates, and sulphates of potash and soda in solution. Fibrine and albumen contain the same elements in the same proportions; with a red colouring compound of iron they form the globules. The blood also contains peculiar fatty bodies, and the earth of bone in small quantities. All the *tissues* are formed out of the blood; and they form the parts, organs, and systems of which the aggregate is the organization.

The body in the whole, and in its parts, undergoes innumerable alterations; but these deviations from the normal type may be reduced to certain general heads:—(1.) increase, or diminution of density, weight, volume, cohesion, elasticity, colour, number (of parts),—of which the following present examples—induration, softening, dilatation, contraction, atrophy, hypertrophy, anæmia, plethora, albinism, fracture, hæmorrhage: (2.) displacement,—examples—transposition of viscera, hernia, dislocations, passive congestion, dropsy: (3.) heterologous* products—examples—pus, tubercle, cancer, melanosis: (4.) disorganization,—examples—ulceration, mortification. The secretions—the products of transformations of the blood and tissues—saliva, intestinal juice, pancreatic fluid, bile, (poured into the intestinal canal), milk, urine, (liquor), perspiration, breath (generally in a state of vapour)—may all be excessive (flux), altered in composition (discharge), or deficient (suppression)—examples—diuresis, ischuria diabetes, albuminaria, stone (of uric acid, oxalate of lime, phosphate of lime, the triple phosphates). As the urine, which affords peculiar facilities for chemical investigation, has been found to vary in all its constituents, and to contain either matters derived from the blood, as albumen—or, as in jaundice, secreted by remote organs—or new (heterologous) compounds, such as diabetic sugar, oxalate of lime, free uric acid,—the existence of similar changes may be inferred in the other secretions, and in the blood.

Besides the physical and chemical alterations which may be detected after, as well as before, death, derangements of the dynamic phenomena of life are observed, which may be referred to the heads of heat, refrigeration, spasm, paralysis, pain, coma, mania, amentia; as we see them, for instance, in ague, the exanthemata, typhus, inflammation, cholera, tetanus, epilepsy, palpitation, paraplegia, gastrodynia, apoplexy, insanity.

The elementary phenomena of disease admit of infinite combinations; and none is of more frequent occurrence, or of greater importance, than inflammation; the symptoms of which are "*redness* and *swelling*, with *heat* and *pain*."† The redness and swelling denote an excess of blood in the part; the heat, a chemical reaction of the blood and tissue, the result of which is interruption of the function, and generally the effusion of lymph, the formation of pus, or gangrene. If the hypothesis be adopted, that heat is formed by the combustion of organic matter, and is proportional to the amount of oxygen consumed, we can easily understand how heat is generated, and becomes sensible in inflammation. The heat, accompanied by quick pulse (increased action of the heart), is called inflammatory *fever*; but fever itself is the result of a great variety of morbid processes, in which the disengagement of heat and the waste of flesh is rapid, without any development of muscular or mental force.

If we now inquire how the species of disease have been distinguished, and whence their characters have been derived, it will be found to have been generally from the morbid processes or products, the parts affected, the pain, the perceptibility of phenomena, their duration, their individuality, frequency, and fatality.

The parts affected, and their functions, stand next in importance to the morbid processes, actions, or products. The body is an aggregate of organs, each consisting of a variety of tissues, and performing special offices; the eye for instance, is an organ consisting of a lens, of humours, membranes, blood-vessels, muscles, nerves the optic nerve; its function is vision; and though all the deviations of its apparatus from the normal state are morbid,—interference with vision stamps them with importance, and entitles them to names. The most important organs are the brain, spinal marrow, nerves, and senses, constituting the nervous system: *function*—sensation, volition, motion: the heart, arteries, veins,—the vascular system; *function*—circulation of the blood. The nervous and vascular systems pervade, and their derangement may directly disturb, all the parts of the body. The functions of the absorbent, respiratory, digestive, urinary, generative, locomotive, integumentary, and cellular systems, will be denoted by their [illegible] parts, forming subordinate organs; thus, the hand is an organ of prehension, the mouth of mastication, the pharynx of deglutition. Some parts are more easily observed than others, and will be found to have not perhaps more disease, but a greater number of specified diseases. The influence of function, and of perceptibility on nosological nomenclature, will be seen by comparing in systematic works the diseases of the ear and hand with the long list of diseases of the eye; the diseases of the mucous membranes with the diseases of the skin; the inflammations distinguished by the antients, with the serous, mucous, parenchymatous inflammations of modern pathologists, armed with new instruments of diagnosis, and facilities for examining bodies after death. Where particular parts of organs are liable to attacks, and present characteristic symptoms under the attack, or where the products of pathological processes are distinct; wherever, in fact, important pathological states and phenomena are isolated and can be individualized, they have been made species of disease. Pleurisy, pneumonia, and catarrh (bronchitis,) were distinguished at an early period, and their independent existence has been confirmed by pathological anatomists; they differ in the symptoms, site and fatality; and occurring together, but often alone, are examples of the way in which diseases of different parts of an organ have been divided into species.

In the constitution of species, more attention is now justly paid to structural than to functional changes; the former are often the proximate causes of the latter; but some pathologists, led astray by a principle of classification applicable to natural history,* or pre-occupied by their anatomical

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* The medical reader who takes any interest in this subject, is requested to refer to the article "Nosology" in the Appendix to the First Report. I say "medical" reader, because it is impossible to discuss a subject so purely technical as Nosology, without assuming a knowledge of facts and principles which can only be familiar to medical men; who it is quite certain will be called upon to exercise all their professional sagacity in returning the "causes of death" with the necessary degree of accuracy.

† A natura vero, species solum datæ sunt; et generum constitutio est mentis humanæ excogitatio.—*Cullen*—Synopsis Nosol. Meth. Even in natural history it would perhaps be more correct to say "individuals" than species.

* Laennec proposed to call tubercle, melanosis, and cancer, which have no analogues in the organization, heterologous products.

† Notæ vero inflammationis sunt quatuor, rubor et tumor cum calore et dolore. *Celsus*, lib. 3, cap. 10.

* Pour que chaque etre puisse *toujours se reconnaitre dans ce catalogue*, il faut qu'il porte son caractere avec lui: on ne peut donc prendre les caracteres dans des proprietes ou dans des habitudes dont l'exercice soit momentaneé mais ils doivent etre tirés de la conformation: *Cuvier*—Regne Animal, tome i. p. 7. The problem in natural history is or *was*.—Given one of many thousands or millions of individuals, what is its name and place in the "catalogue?" As the specimen is often dead, or

studies, and the recent discoveries in morbid anatomy, have denied the existence of dynamic isease; and, by a violent and improbable hypothesis, have assumed that every case, for instance, of insanity, convulsion, or syncope, is the *symptom* of a congestion, inflammation, or some other evident anatomical lesion. It would be as reasonable to assume that the needle of the mariner's compass never loses its magnetic properties but by evident oxidation.

Upon an examination of the registers of the fatal diseases in the first years of registration made, as is evident from the instructions, without any preconceived notions on classification, it was found that, exclusive of epidemic diseases, a majority of the cases had been referred to particular organs, which were named, or unequivocally indicated, by the nature of the lesion. In other cases, such as hæmorrhage, dropsy, abscess, mortification, and cancer, the seat of the disease was seldom mentioned. The first class was arranged in groups, as sporadic diseases of the nervous, circulating, respiratory, digestive, urinary, generative, locomotive, and integumentary systems; the second as diseases of uncertain seat (*de incertis sedibus.*)* This mode of viewing the facts is common in England; it has been adopted in the treatises on the practice of physic, which are most generally in the hands of practitioners; and, what is of more importance, by the authors who have devoted themselves successfully to research, and have naturally contributed most to the formation of the reigning medical opinions. The Library of Practical Medicine has followed this arrangement; and we have the original works of *Abercrombie and Marshall Hall, on Diseases of the Nervous System; Hope, on the Diseases of the Circulating System; Williams, on Diseases of the Chest; Abercrombie, on Diseases of the Stomach and Intestines; Prout and Sir Benjamin Brodie, on the Diseases of the Urinary Organs; Willan and Batemen, on Cutaneous Diseases:* not to mention others, and the treatises on midwifery, or the surgical treatises on the diseases of the joints and bones. Upon the other hand, there are essays and papers by Carswell, Watson, Sir James Clark, Mueller, Carmichael, and Walshe, on hæmorrhage, dropsy, tubercle, cancer, with a subordinate reference to the parts affected. The French writers, Laennec, Andral, Chomel, Rostan, Lallemand, and Louis, from whom we have derived so much, have cast their practical works in the some mould. This mode of grouping and considering the different types of sporadic disease, appears to be practically the best—to involve few errors in carrying it out, to lead to useful results, and to be in conformity with the general principles upon which diseases have been constituted and named.

It will be observed that the different heads in the statistical nosology are numbered and sometimes subdivided; they may be called species, provided the term be not understood in the strict sense it bears in natural history† with the technicalities of which medical science should not be encumbered, as it has principles of its own, and can derive more advantage from the methods of chemistry and natural philosophy.

Sporadic diseases of uncertain or variable seat.

To commence with the diseases of uncertain or variable seat. *Hæmorrhage* (28) is essentially the *loss of blood;* blood may escape from any of the vessels in any part; and the difference and susceptibility of the part has given eight names to the affection. Hæmorrhage is periodical in females, and hereditary in some families; epistaxis is a type of simple hæmorrhage. The extensive loss of blood in phthisis, stone, cancer, ulcer, wounds, &c., is an important and sometimes fatal complication; but the *combination* of lesions may be described ("phthisis, hæmoptysis," &c.) and does not require a name. Hæmorrhage in the brain is one of the causes of apoplexy; in the lungs one of the causes of asphyxia. Dropsy (30), the effusion of serum in the cellular tissue, the brain, chest, pericardium, peritoneum, tunica albuginea, has received distinct names; it is frequently an effect of retarded circulation: is a sequela of scarlatina: is observed in famines, and is the cause, consequence, or concomitant of Bright's disease of the kidneys (nephria). Abscess (31) or purulent deposit, is a secondary disease; *psoas abscess* (almost invariably scrofulous) has been distinguished; ulcer (32) is generally scrofulous, scorbutic, syphilitic, cancerous, or varicose, and is further described by the addition of the part affected. Scrofula, characterised by the deposit of a matter, allied to, if not identical with, the tuberculous matter of phthisis, so frequently affects the lymphatic glands, that their chronic enlargement and inflammation (adenitis) is almost always considered scrofulous; the deposit of tuberculous matter in the mesenteric glands has a name; it is frequent in children. Tubercle may be deposited in every part, and is found in the bodies of those who die of other diseases; it affects the glands and brain chiefly in children, the lungs in adults. Cancer differs from tuberculous matter in its tendency to assume an imperfect form of organization; it presents several varieties; but as it invades many parts, simultaneously or successively, it has not received special names from the organs, notwithstanding the variety of specific symptoms to which it gives rise. It is unnecessary to extend these remarks; they will apply with little variation, to all the diseases in the class. By following all the possible combinations of the few elementary lesions here fixed upon through all the organs, considering each a separate disease, and giving it a name, the number of species would become very great; but the number has been limited by their unfrequency, imperceptibility, indistinctness, or indestructiveness.

If it were agreed to use the prefixes—hæm-a, hydr-o, py-o, helc-o, choir-a, carcin-o, necr-o hyper, par,—to designate the ten principal lesions in the class, by prefixing them to only ten of the principal parts (and they may be prefixed to a hundred), 100 species would be formed. Thus, as we have hydro-cephalus, serum effused in the brain (including its membranes); we should have hæmencephalus, blood effused in the brain; pyencephalus, pus, (abscess) in the brain; helcencephalus, ulceration of the brain; choirencephalus, tubercles in the brain; necrencephalus, ramollissement of the brain; hyperencephalus, hypertrophy of the brain; parencephalus, malformation of the brain; and carcinencephalus, cancer of the brain; carcinocardia, cancer of the heart; carcinopneumon, cancer of the lung; carcinohepar, cancer of the liver; carcinogaster, cancer of the stomach; carcinentera, cancer of the intestines; carcinephrus, cancer of the kidney; carcinocystis, cancer of the bladder; carcinohystera, cancer of the uterus; carcimamma, cancer of the breast. Carcinosteon is designated osteo-sarcoma in surgical works. All these lesions are the source of special phenomena (hæmencephalus, carcinencephalus, and carcimamma, for example, are attended by very different effects); and they have been enumerated because a comparison of these and other possible combinations of lesions and symptoms affords a good illustration of the way in which diseases have been constituted; but the new names have not been introduced into the nosology, because it could have led to uniformity only at the expense of old names,* and because the primary fatal diseases of several in the class are not numerous, and others, as has been already stated, in which there are organized or unorganized deposits, affect several organs before they prove fatal. Hæmencephalus, necrencephalus, hyperencephalus, hypercardia, may, however, be advantageously adopted. In other cases it will be simpler to write, as has been recommended in the nosology, "cancer of the breast, liver, brain, " than three compound names; and more convenient to describe the disease by the addition of the locality affected, as "cancer of the tongue," "of the œsophagus," "of the stomach," "of the colon," &c., than to invent specific names, which are only required in the place of descriptions, when the things or facts have to be frequently considered and mentioned.

Inflammations.—Local Diseases.

Redness, swelling, heat, and pain, are diagnostic symptoms of inflammation, but they cannot be satisfactorily observed except in external parts; the fever is common to all acute inflammation; though the vascular injection, and other traces of inflammation might be found after death, they are rarely observed, as the internal parts are seldom inspected; so that practically the perversion or abolition of function is the most striking phenomenon in the inflammations of the organs, which are considered sufficiently important to form distinct diseases. Hence the names of the parts affected, with the suffix "itis," give names to forty diseases; a subdivision of phenomena which, if it is not always justified, and is unnecessary for statistical purposes, admits of explanation, and throws light upon the principles already advanced. Inflammation may exist wherever there are blood and capillaries: its species are limited by the importance of the parts affected. Inflammation of the membranes and medullary matter of the brain have been designated meningitis, and encephalitis; of the spinal marrow and its membranes myelitis. Besides these inflammations, which sometimes exist apart and can sometimes be distinguished during life, writers have described arachnitis, cerebritis, cerebellitis, &c., from the appearances after death. Cullen designated by the old term phrenitis the inflammations of the brain, spinal marrow, and membranes; and although the chief distinctions of modern pathologists should be attended to where it is practicable, in assigning the causes of death, it would be unwise to carry the division further, or to preserve more than the one head, cephalitis, in the abstracts. Ophthalmia is now subdivided, and minute oculists describe "conjunctivitis, sclerotitis, iritis, choroiditis, retinitis, and hyaloiditis." Auscultation has facilitated the diagnosis of affections of the chest; and the inflammations of the internal and external membranes have been separated from those of the parenchyma of the heart and lungs; besides pleuritis, bronchitis, and pneumonitis, practical writers now treat of pericarditis, endocarditis, carditis. The inflammation of the two surfaces and parenchyma of other organs are generally designated by one word—glossitis, parotitis, hepatitis, pancreatitis, splenitis, nephritis, cystitis, orchitis. If it were of the least utility, the triple subdivision might be extended to these organs; and hepatitis, for example, might be made choledocitis, perihepatitis, hepatitis. Inflammation of the intestinal tract has received several names; stomatitis, tonsillitis, pharyngitis, œsophagitis, gastritis, enteritis, (under which term I include duodenitis, jejunitis, ileitis, cœcitis, colitis, rectitis, proctitis). These terms are held to designate especially inflammation of the mucous and submucous coats of the canal; which is invested after it enters the abdomen by the peritoneum; inflammation of this serous membrane is named peritonitis. A question has arisen whether inflammation of the part of the peritoneum—investing the stomach, small and large intestine, liver, uterus, bladder, &c.—should not be specifically designated gastritis, hepatitis, &c.? It will be much more convenient to designate inflammation of every part of

—as in fossils—has been only partially preserved, the superior importance of characters, derived from the most permanent structures of the organization, is obvious. Recognition is not a main object of any classification of diseases; and the most expert anatomist would, in numberless instances, find it impossible to divine from the after-death appearances, the previous pathological phenomena.

* Celsus.

† La generation etant le seul moyen de connaitre les limites auxquelles les varietes peuvent s'etendre, on doit definir *l'espece, la reunion des individus descendus l'un de l'autre, ou de parents communs*, et de ceux qui leur ressemblent autant qu'ils se ressemblent entre eux.—*Cuvier*, R. A., tome i. p. 17. With this definition before our eyes, we can not confound the species and genera of natural history with those of diseases.

* Helcosteon and chorosteon for caries, psoas abscess, and white-swelling; necrosteon for necrosis, hyperosteon for exostosis and node, choirenteron for tabes mesenterica, hæmentera for melæna, hæmohystera for menorrhagia, hydroperitoneum for ascites, &c.

the peritoneum—peritonitis: but the serous and subserous coats of the peritoneum derive blood from the vessels of the subjacent organs; and, when secondarily involved, their inflammation is necessarily included in our idea of inflammation of those organs. Inflammation of the liver, causing adhesions of the peritoneum, is essentially hepatitis; the inflammation, from perforation of the intestine, of the investing membrane of the liver, and of the other viscera, although their functions are all violently deranged, is essentially peritonitis. Ileus is ascribed to inflammation of the muscular coat of the intestine by Dr. Abercrombie, who considers it "established that a result of inflammation in muscular fibre is gangrene."* Dothinenteritis has been employed to designate inflammation of the mucous follicles.—The inflammations of the respiratory tract, are—coryza (schneideritis?) laryngitis, tracheitis, bronchitis, pneumonitis; of the urinary tract—urethritis, cystitis, ureteritis, pyelitis. The bones ligaments, joints, (synovial membranes) bursæ, tendons, muscles, nerves, veins, arteries, lymphatics and glands, described by anatomists, are very numerous; the bones, for instance, are reckoned at 246, and every one may be the seat of inflammation, similar in its kind, however different in its effects; so as to avoid an endless multiplication of names, which would be rarely or never used, inflammation of the veins (of one or of all) has been called phlebitis, and the inflammations of the other parts have been named in the same way arteritis, adenitis, neuritis, myositis, arthritis (synovitis, erondritis, *syndesmitis*,), ostitis, endostitis, periostitis,) *fasitis*, *tenditis*. In registering this class of cases it will be most convenient to write "Inflammation of ——," the particular part; or "Arthritis (knee)," &c.

Inflammations are *acute* or *chronic*; but the duration may be more accurately expressed by the ordinary measures of time.

Inflammations may be divided into pure inflammations—*idio*-inflammations—or those which supervene in a normal state of the blood and tissue; and inflammations which are developed in cachexies, and in the course of other diseases. The distinction is of such fundamental importance, that it should be explicitly expressed in the names; which might be effected by restricting the use of the termination "itis" to idio-inflammations, and applying the termination "*ia*" to complicated inflammations. Simple inflammation of the lungs would be designated pneumon*itis*: the inflammation of the lungs occurring in small-pox "pneumo*nia*." Upon the same principle opthalm*itis*, and purulent opthalm*ia*, may be distinguished; the visceral inflammations in typhus and remittent fever would not be cephal*itis*, &c., but cephalia, pulmonia, gasteria, enteria, hepatia. The inflammation of the brain in scrofulous children has a specific name—hydrocephalus; and peritonitis, with tubercular deposition, is qualified by "tubercular;" the adoption of the two terminations would be a useful extension of the analogy, with which dysenter*ia* is in strict conformity.

Functional Diseases.

The systems of organs in the body are liable to functional derangements which cannot be ascribed to inflammations. Neither the inflammation nor the dynamic derangement exists independently of the organs; the two series of phenomena often coexist; and it is not clear that they can be advantageously separated in statistical abstracts of the causes of death. They were grouped together under the principal systems in the first abstracts, and the arrangement has been retained. For the organ determines the character of the disease, as the grafted branch determines the quality of the fruit.

Diseases of the Nervous System.

The brain, spinal marrow, and nerves, are the organs of sensation, volition, and (with the muscles), of motion. The muscles are of two kinds: the voluntary muscles, which are attached to the bony levers of the skeleton, and, by contracting at the bidding of the will, produce the various movements which we witness of the whole or a part of the body; and the involuntary muscles of the hollow organs, for the retention, circulation, ingestion, and expulsion of fluids; some of which, such as the heart and intestinal canal, are independant of the will, while others, like the respiratory muscles, are excited by the brain and by the spinal marrow—by the stimulus of volition and of contact—reflected along the nerves. Spasm is in general the excess of irregularity, paralysis the abolition or diminution of muscular action; the voluntary muscles, in spasm, contract spontaneously despite of the will; in paralysis the will has no effect upon them, or does not produce harmonised contractions; the involuntary muscles in the same circumstances contract violently and irregularly, or cease to contract upon the application of the accustomed stimuli. As volition implies consciousness, the muscles which are exclusively excited by volition are inactive (paralyzed?) in sleep, coma, and apoplexy—which in its simple form appears to be a modification of deep sleep. In tetanus, croup, epilepsy, catalepsy, hysterics, convulsions, chorea, tremor, paralysis, apoplexy, the voluntary and partly voluntary motor system is principally deranged, with or without loss of consciousness; but the spasms or paralysis may originate in the muscles, the nerves, or the spinal marrow; and after Dr. Marshall Hall's ingenious hypothesis, supported by many facts and experiments, the true spinal system, in this sense, may be considered the seat of the spasm, which, as well as paralysis, may affect any muscle to which motor nerves are distributed, as pain may be felt in any part from which sentient nerves proceed. Pain accompanies nearly all diseases; when it is the sole or principal phenomenon, it has been designated neuralgia; or cephalalgia, odontalgia, cardialgia, gastralgia, enteralgia, &c., by suffixing algia, from *algos*, pain. Odynia is used precisely in the same sense (as in gastrodynia); and headache, toothache, heartache, bellyache, stomachache, are translations of the Greek compounds. Tic douloureux is a convulsive pain. The spasms and paralysis of parts may be designated in the same manner as their pains by terminations (cardiasm may denote spasm, cardialysis paralysis of the heart): hemiplegia and paraplegia are in general use; trismus, opisthotonos, emprosthotonos, pleurosthotonos, are scarcely required to denote transitory forms of tetanus. The modifications of muscular force, contraction, and rythm, as well as their combinations with pain, loss of consciousness, and functional derangements, are numberless; it will be sufficient to mention a few from the nosologies, as they are either physiological, and not primary independent affections, or seldom shorten life; trembling, shivering, languor, lassitude, hiccup, sobbing, sneezing, coughing, puffing, snoring, yawning, twitching, twinkling, squinting, stammering, (Linnæus, Mason Good, &c.)

The modifications of the sensations, and of their organs, are equally numerous: the names of disorders of the feelings, passions, intellect, abound in the lexicons of all languages. Mania, monomania, and dementia—a termination of mania—may be distinguished in the registers.

When the brain, spinal marrow, and nerves of persons affected with the lesions that have been called dynamic are examined after death, traces of inflammation are often found; congestion, softening, effusion of serum, hæmorrhage, tubercles, tumours, produce paralysis or apoplexy. The connexion between the anatomical lesions and derangements of function requires further investigation; it is not constant.

Diseases of the organs of circulation.

It was necessary to point out the dependence of visceral pains, spasms, and paralysis on the brain and spinal marrow; which, in their various states of excitement, depression or derangements, influence even the involuntary muscles. The heart, for instance, beats violently or intermittingly under various states of mental excitement, and beats heavily and slowly in apoplexy; but as palpitation, spasm, fainting, cardialgia, &c., are frequent symptoms of heart disease, and as their causes in idiopathic cases may be in the heart itself, they have been classed with its inflammations and organic diseases. The same principle has been acted on in dealing with the neuroses of other organs, and with affections of the brain originating in the diseases of the heart and kidneys. The organic diseases of the vascular system—hypertrophy, atrophy, ossification, diseased valves, aneurism—which are now detected by auscultation, can often, but not always, be traced to inflammation.

Diseases of the respiratory organs.

Laryngismus stridulus, and asthma, appear to be the only neuroses of the respiratory system which require a separate head in a classification of fatal diseases. Deposits of tubercle have so frequently their seat in the lungs that the phenomena to which they give rise have been called phthisis pulmonalis; and on this ground, as well as the supposed uncertainty of diagnosis, where auscultation is not used, phthisis was classed with the diseases of the lungs in the first abstracts. It does not, however, appear to be governed by the same laws as the pulmonary diseases, and will probably require, with the progress of registration, to be classed in the abstracts under a separate head, or with the other tuberculous diseases.

Diseases of the digestive organs.

Hernia (strangulated) and intussusception are inflammations of the intestine, caused by pressure; in the former preceded by the escape, in the latter by violent muscular action, of the bowel, and generally terminating in mortification, with the symptoms of ileus. Constipation may be either the effect of inaction (torpor), or of spasmodic constriction (colic) of a portion of the intestinal tube: stricture is a contraction of the submucous coat, either from previous inflammation, ulceration, or heterologous deposits; and the symptoms vary according as the stricture may be situate in the œsophagus, pylorus, ileum, rectum, &c., and may consequently interrupt the ingestion of food or the passage of fæces. As the canals of the organs of the body transmit fluids, obstructions and retentions form an important class of their derangements; thus, besides the stricture of the intestine, there are obstructions of the gall-ducts, of the ureters, urethra, heart-valves, arteries, veins, trachea, all of which may be fatal. The reduction of aliment is the special function of the stomach and intestine; it is inferred that this is imperfectly performed when there is nausea, heartburn, disengagement of gas, or of acrid fluids; hence the designation dyspepsia. Little is known of the diseases and functions of the pancreas and spleen. Liebig has rendered it probable that the bile is absorbed from the intestine; may not disorders of nutrition, therefore, which put a stop to its destruction (combustion) in the blood, lead to its deposit in the cellular tissue, or secretion in the urine? Jaundice is, however, generally connected with the diseases of the liver, and is always referred to the liver as its source. The fatty degeneration of the liver occurs frequently in phthisis; cirrhosis is an atrophy of the liver produced by the pressure of the contractile tissue, developed in the capsule of Glisson.—(*Carswell.*) The compression of the portal vein leads to venous effusion, and almost invariably constitutes the disease which was called by the ancients ascites.

Diseases of the urinary organs.

Ischuria, diuresis, albuminuria, diabetes, stone, are the principal functional diseases of the urinary system; the three first, though often symptoms (as subordinate phenomena are sometimes called) of nephritis and other diseases, appear to have sometimes an independent existence. As the sugar of diabetes is found in the blood and in the stomach, it has been considered essentially a dyspepsia, and been classified with the stomach diseases, as bile in the urine has been referred to the liver; but we have custom, with the unquestionable, invariable existence of sugar in the urinary secretion, on one side, and only a probable hypothesis on the other. A secretion may be modified as well by a change of the fluids, from which it is made directly or indirectly, as by a change in the secretory organ; and the oxalic acid, uric acid, triple phosphate, albumen, as well as sugar in the urine, may often be considered the symptoms of

* Researches on the Diseases of the Stomach, the Intestinal Canal, the Liver, and other Viscera of the Abdomen. By J. Abercrombie, M.D., &c. Third Edition, p. 6.

changes in the chemical processses of remote organs. The same may be said of mismenstruation.

Diseases of the organs of generation.

All the diseases incidental to *childbirth* are connected together by this function, and their seat in the reproductive organs.

Diseases of the organs of locomotion.

Besides inflammation, the osseous system may be the seat of all the diseases of uncertain seat; brittleness and softening appear to depend upon the excess or deficiency of bone-earth in their gelatinous tissue. Skin diseases require no comment here: the innumerable varieties depend apparently as much on the complicated structure of the integumentary system, and its free exposure to the oxygen of the air, as on the specific nature of the morbid processes.

Two or more diseases frequently coexist; pleuripneumonia, paraplexia, and gastro-enteritis, are examples of the compound names by which these combinations have been designated. If two morbid states invariably coexist, or two parts are simultaneously affected, and the one affection imply the other, a single name is sufficient; if the coincidence is rare, a new name will be unnecessary; and as a general rule, it will be better in such cases to write the names of the separate diseases consecutively, whether they arise from the same cause, or stand to each other in the relation of effects and causes.

The phenomena of all the diseases which have hitherto been considered had reference to the nature of the morbid processes, or the systems of functions and organs: two classes remain to be reviewed—the class of epidemic, endemic, contagious diseases, and the class of poisons, asphyxia, or injuries, in which the cause is the fundamental fact around which the phenomena are naturally grouped.

Poisons and Injuries.

One person dies of corrosion of the stomach and hematemesis, another of palsy of the heart, another of tetanic spasms of the respiratory muscles, another of pure narcotism, another of a combination of these phenomena which have in them something peculiar, and differ from the spontaneous diseases with which they have been compared. All the sufferers have been poisoned by oxalic acid, in various degrees of dilution. Verdigris produces a variety of symptoms—vomiting, cutting pains in the bowels, jaundice, violent headache, cramps in the legs, convulsions, palsy, insensibility,—and the poison itself is the predominating fact: the nature of the morbid processes, and the lesion of the parts or functions being of secondary importance, differing according to the dose, the individual, and many accidental circumstances, but possessing altogether, in connexion with each other, order of succession, intensity, and result, a certain individuality of character, which distinguishes poisoning by copper from poisoning by other substances, and from other diseases. The diseases that poisons—such as oxalic acid and the salts of copper or lead—occasion in the body, should evidently be named, now that the diseases have been ably investigated and described, though they are not so well understood as their exciters. The idea of the metal, lead, is represented by the word "lead;" and as this name is required for the purposes of speech, a name for the series of phenomena caused by lead, or the salts of lead, in the human body, appears to be equally indispensable in medical science. It is as necessary to distinguish the effects of a lead poison in the body, from the lead poison itself—as to distinguish a "burn" from the fire by which it is produced; for arsenic, or any substance of the kind, proves a cause of death only when it produces certain changes (diseases) in the organization, and those changes are logically the direct cause of death. A *burn* or *arsenicia* may be the cause of death—but fire and arsenic are only causes of death by producing burns and arsenicia. Catharsis, narcotism, intoxication, salivation, burn (blister, eschar), asphyxia, fracture, contusion, wound, dislocation, are names, that have already been adopted to designate the pathological effects of chemical or mechanical agents. Catharsis is produced by colocynth, scammony, jalap, rhubarb, [illegible] of soda, potash, magnesia, and a hundred other substances; in the effects of which careful observation might detect peculiarities, slight in some cases, but as broad and obvious in others as the differences in the chemical composition of the cathartics. In strict conformity, nevertheless, with the correct principles of nomenclature, catharsis and hypercatharsis serve to express the actions of the greater number of purgatives; yet it must not be forgotten that these actions are of a peculiar nature, sometimes affecting the whole organization, and constituting specific diseases, of which catharsis is a leading symptom. Opium, hyoscyamus, hemlock, hydrocyanic acid, tobacco, belladonna, digitalis, fungi, cause narcotism; and the term narcotism designates sufficiently well the effects of some of the common narcotics; but it would be absurd to confound the diseases excited by opium and hydrocyanic acid, digitalis and poisonous fungi, under a general designation. Catharsis, narcotism, intoxication, and burn, present nearly all the elementary phenomena of poisoning; but the number of combinations of elementary phenomena, and degrees of intensity, like their chemical causes, are innumerable. In the present state of science many may be described by periphrases, but a few require specific names, of which the following are submitted as examples; and if they should not be adopted, they may still be considered an illustration of distinctions which everybody will admit to be important:—

Poison	Disease produced by the Poison.
Silver (*arguros*) its salts - - - -	argyria.
Quicksilver (*udrarguros*), its oxides and salts - - - - - - - -	hydrargyria.
Copper (*kupros*, cuprum), its oxides and salts - - - - - - - -	cypria.
Lead (*molubdos*), its oxides and salts	molybdia.
Antimony (*stibi*), its oxides and salts	stibia.
Arsenic, its oxides and salts - -	arsenicia.
Iodine - - - - - - - - - -	iodia.
Sulphuretted hydrogen - - - -	hydrosulfuria.
Oxalic acid - - - - - - - -	oxalia.
Hydrocyanic acid - - - - - -	hydrocyania.
Alcohol - - - - - - - - -	alcoholia.
Elaterine (elaterium) - - - - -	elaterinia.
Nicotinine (tobacco) - - - - -	nicotinia.
Atropine (belladonna) - - - -	atropinia.
Morphine (opium) - - - - - -	morphinia.
Strychnine (nux vomica, St. Ignatius's bean) - - - - - - -	strychninia.
Fungine (poisonous fungi) - - -	funginia.

The metals and other elementary bodies having little affinity for water, or for the constituents of the organization, seldom, except in composition with oxygen and acids, produce disease. The insoluble compounds are inert, and of soluble compounds the intensity of action is apparently in proportion to the solubility, or to the power of pervading the blood; and to the importance of the matter or organ on which the poisonous affinities are exercised, destroying its normal composition, forming new compounds, which the poison unites with or sets free, and altering the vital actions, in a manner characteristic of the base. Liebig shows how, according to his ingenious theory of respiration—if the iron in the blood globules carry oxygen—the fatal effects of sulphuretted hydrogen and hydrocyanic acid may be explained by their well-known action on the compounds of iron, and thus enables us to conceive, if we cannot demonstrate chemically, the *modus operandi* of the most virulent poisons.

In very minute doses poisons have no visible effect, or have a sanative effect on the organization; in large doses their action is generally violent and local (acute); in moderate, long-continued, repeated doses, characteristic series of effects are produced, such as the mercurial salivation, erythema, and tremor, lead colic, and paralysis. If small doses of substances, poisonous in larger doses, are innocent or remedial, food in excess acts by its quantity like a poison, and gives rise to acute indigestion, or to the trains of symptoms indicated by gout, plethora, bloated obesity. The alimentary liquors, of which alcohol is the basis, intoxicate in large doses; and frequent intoxication induce delirium tremens, cirrhosis, and other pathological phenomena which may be designated *alcoholia*. The privation of the various kinds of fluid and food every day required by the organization, gives rise to acute symptoms (such as occurred, for instance, in the shipwreck of the Medusa), or chronic forms of disease, such as scurvy, and the malady that decimated the Milbank Penitentiary; the body, acted on by oxygen, when it can no longer serve for food, becoming a poison to itself, or falling spontaneously into states of disorganization analogous to the effects of poisoning. The special disease arising from privation might be called *pinia* (*peina*, famine, hunger); from high living, *obsopnia* (*opsoponos*, "elaborately cooking victuals"); from cold, *psychria* (*psuchros*, cold); from heat, *thermia* (*therme*, heat); without discarding the common terms starvation, scurvy, overeating, gout, chilblains, frost-bitten (cold ?), gangrene, coup de soleil, and some tropical diseases, or replacing the names of diseases which owe their origin indirectly to the excess or deficiency of food and warmth.

Many animals secrete venoms of various kinds, and in others, such as muscles, which are used for food, poisons are accidentally generated.

Epidemic, Endemic, and Contagious Diseases.—Zymotic diseases, or zumoses.

"Miasm, properly so called, causes disease without being itself reproduced. * * * Carbonic acid and sulphurretted hydrogen, which are frequently evolved from the earth in cellars, mines, wells, sewers, and other places, are amongst the most pernicious miasms." (*Liebig.*) Miasms produce diseases like ague, without being propagated by contagion; but the poisons—carbonic acid, sulphurreted hydrogen, and other gases, which are given off by organic matter in putrefaction, afford an illustration of their action. The miasm which excites intermittent fever may be designated *pyretine*; and if it were not probable that modifications of the marsh miasm induce, in certain circumstances, remittent and yellow fever, specific names should be found for their principles. Rheumatic fever is apparently caused by a miasm.* Its changes of seat can scarcely be accounted for on the hypothesis that it is a local inflammation of the fibrous tissue.

Certain matters which have not yet been analyzed produce small-pox, glanders, hydrophobia, syphilis, measles, scarlatina, and other diseases; and as it was before proposed to give names to the well-defined diseases produced by poisons, so, for the purposes of reasoning, it will be equally useful to name these specific matters or transformations of matter by which diseases are propagated either by inoculation and contact (contagion), or by inhalation (infection). The following list exhibits the popular and scientific names of diseases in juxta position with the proposed names of their exciters; and it may be assumed hypothetically, that in the blood corresponding bodies exist which are destroyed, and by the transformation of which the exciters are generated or reproduced. The names in the second column terminate in *a*, except a few in *s*. Lyssa, (from *lussa*, rabies), the old Greek term, has been restored by Mason Good; I propose, for the sake of uniformity, to call puerperal fever *metria*; mumps, *parotia*, reserving parotitis for simple inflammation of the parotids; croup, *trachcia*; and the disease from puncture in dissection, *necsia* (*nekus*, the dead body.)

Diseases.		Zymotic Principles.
Small-pox - - - -	variola. -	varioline.
Cow-pox - - - -	vaccinia -	vaccinine.
Glanders - - - -	equinia -	equinine.
Hydrophobia - - -	lyssa - -	lyssine.
Syphilis - - - -	syphilis -	syphiline.
Infection in dissecting	necusia -	necusine.
Erysipelas - - - -	erysipelas -	erysipeline.
Puerperal fever - -	metria -	metrine.
Measles - - - - - -	rubeola. -	rubeoline.

* The exciting cause of intermittent fevers, rheumatism, and [rheumatic] neuralgia, is generally admitted(?) to be *malaria*; and if viewed abstractedly, and with reference to their specific nature, *it is probable that malaria is the only exciting cause of these diseases.*—[illegible] p. 50

Scarlet fever - - -	scarlatina	scarlatinæ.
Hooping cough - -	pertussis -	pertussine.
Dysentery - - -	dysenteria	dysenterine.
Diarrhœa - - - -	diarrhœa	
Cholera - - - - -	cholera -	cholerine
Influenza - - - -	influenza -	influenzine.
Typhus - - - - -	typh*us* -	typhine.
Plague - - - - -	pest*is* - -	pestine.

The existence of gangrenine, ergotine, ophthalmine, tetanine, miliarine, diphtherine, parotine, aphthine, tracheine, may also be admitted. It is maintained by some pathologists, that the same specific poison produces several of these diseases—erysipelas, necusia, and metria, for instance—but while the diseases are described as distinct, it will be most convenient to consider their exciters as distinct, although they may be convertible into each other, and be as nearly related as varioline and vaccinine.

The chemical composition of these principles is at present unknown; but as salts are distinguished from each other by their relations to other bodies, and, though they may have the same appearance in solution, are found to differ by the compounds which they form with other bodies in solution, so the existence is demonstrated by the effect, of the matter here called "*lyssine*," on animals, although it cannot be detected by the rough analysis of artificial chemistry. The smallest quantity imaginable of *lyssine* inserted under the skin of a dog produces hydrophobia; and the bites of the infected dog will throw other dogs, and even human beings, into a state similar to that of the dog from which the charge of lyssine originally came. Varioline in the same manner produces small-pox, if the patient has not previously undergone its influence, or the influence of vaccinine—a modification of varioline. The diseases of this class have been frequently spoken of as fermentations; and Liebig has now opened the way to the explanation of their nature by a reference to the phenomena attending the transformations of organic compounds, excited by the action of other compounds simultaneously undergoing analogous transformations. Thus yeast, which is gluten in a state of transformation, added to wort, which contains gluten and sugar, converts the gluten of the wort into yeast, and at the same time the sugar into alcohol and carbonic acid, the two transformations going on together, and the latter ceasing when the former ends. The yeast reproduces yeast, if gluten, from which it was originally derived, be present; and if the temperature and circumstances be favourable, fermentation may be spontaneous.*

It must be admitted, with respect to all the forms of these diseases, that the body, in the cycle of external circumstances through which it passes, may run into them spontaneously (in this they differ from the class of diseases referred to external causes;) for it is impossible to trace them invariably to infectious sources; it is not *a priori* more improbable that they, than that other diseases should arise spontaneously, and it is impossible to account for their existence in the world upon any other principle than that of spontaneous origin. Still the property of communicating their action, and effecting analogous transformations in other bodies, is as important as it is characteristic in these diseases, which it is proposed therefore to call in this sense zymotic.† A single word, such as *Zymotics*, is required to replace in composition the long periphrasis "epidemic, endemic, and contagious diseases;" with a new name and a definition of the kind of pathological process, which the name is intended to indicate, persons who have not made themselves acquainted with the researches of modern chemistry, can scarcely fall into the gross error of considering this peculiar kind of diseased action, and vinous fermentation absolutely identical; or of considering that others entertain that opinion. Liebig draws a distinction between fermentation and putrefaction: the reasons are more urgent for distinguishing the pathological transformations from fermentation or putrefaction, while it is admitted that they are of a chemical nature, and analogous to fermentation; by which they are moreover to a certain extent explained, although so little is known of the series of chemical changes and products in any single zymotic malady, or of the chemical reactions of the living forces and organs. Small-pox is by hypothesis the transformation of varioline, and certain concomitant chemical changes in the blood; manifesting the important symptoms which fall under direct observation.

Some of the morbific principles are fixed; others are volatile; but the greater part of them are fixed and volatile in different circumstances. Necusine, pestine, syphiline, lyssine, equinine, and vaccinine, are the most frequently fixed; they give rise, when placed on the skin, particularly where the epidermis is removed, to their peculiar diseases; but contagion is not invariably the result of their contact; indeed in several of them it is the exception rather than the rule. Either there is no matter in the organization susceptible of transformation, or the specific transformation is overpowered by the vital energies; for in every case, if the morbific principle (zymine) tends to impart its movement to the organization, the organization, animated by the natural forces, has a tendency to continue its own processes, and to impart its conservative movements to all the organic matters which are brought within its sphere.

Varioline is converted in the cow (as Mr. Ceeley has shown) into vaccinine, and cow-pox affords an interesting illustration of the modifications which diseases undergo, and which may be imparted to them, by changes in their exciters. Vaccinine taken from the cow effects the transformation of the *materies morbi* in man as completely as varioline; but it reproduces vaccinine; and in the process is never fatal, never produces the variolous fever, and its vapour is never infectious like that of varioline. The mild form of small-pox which appears in persons modified by previous vaccination, or which follows small-pox inoculation, is an equally good example of the changes induced in diseases by the actual constitution of the individual, and the mode of infection.

Syphilis, erysipelas, necusia, metria, rubeola, scarlatina, and the other zymotic diseases, also put on different forms; which may be referred to the state of the exciter, the mode of its application, the matter on which the exciter acts, or the vitality of the patient. A modification of cholerine or of dysenterine, probably produces diarrhœa. Louis considers dothinenteria (his *fievre typhoide*) a different disease from the typhus of this country, and points out the ulcerations, particularly of the glands of Peyer, with the correlative phenomena, and the rose-spots disappearing under pressure, as establishing its distinct character*. The differences in certain cases are unquestionable and may be expressed by dothinenteria and typhus; but the two forms of the disease occur in this country; the characters are frequently mixed; and they are not greater than are observed in scarlatina simplex, and scarlatina maligna, with black incrustations, and gangrenous inflammation of the throat; in the erythema and phlegmonous erysipelas of Mr. Lawrence, or in the varieties of other diseases.

The blood which prevades the whole system is the primary seat of zymotic diseases; but this does not diminish the importance of the local phenomena with which they commence, proceed, or terminate; for they affect (as poisons do) particular organs more extensively and frequently than others, give rise to specific pathological formations or secretions, and derive their character from the lesions and affected organs.

The heat disengaged in these diseases suggested the term fever, derived from feveo, as fermentum is from fervimentum.

Some zymotic diseases recur, others happen only once in life, or, if they happen twice, it is the exception; this has been explained on the hypothesis that some but not all kinds of matter (zymin) are reproduced in the organization after they have been destroyed by transformation (zymosis) in attacks of disease.

The tendency of zymotic diseases to increase and decline in activity, is one of their most remarkable properties; and the suddenness of their outbreaks, with the great mortality of which they were the cause, excited at an early period the attention and solicitude of mankind. This tendency is indicated by the terms epidemic, and endemic; the latter serving to designate diseases which are excited by miasmata, and prevail in proportion to the quantity of miasm developed; the former, epidemic, denoting the diseases transmitted by man to man, independently of locality, or only dependent on locality, temperature, and moisture, as adventitious circumstances. For statistical purposes, the epidemic, endemic, and contagious diseases, have been classed under one head, as they may all be excited by organic matter in a state of pathological transformation. Ague is not contagious, and is apt to recur; it therefore apparently approaches the class of toxical diseases; but I feel inclined rather to consider it a zymotic disease, in which, to use the language of Liebig, the exciter is destroyed as soon as it is reproduced; and this view is confirmed by the analogies of remittent fever, or yellow fever, so intimately allied in some respects with ague, in others with plague, and apparently contagious (though this is disputed) in certain circumstances. Scurvy is a transformation induced by the want or inadequate supply of vegetable food. It formerly decimated the English navy, and is now met with in certain prisons. Scabies and porrigo (both contagious diseases) are ascribed to an insect (*acarus scabiei*) and a low form of independent organization. The mode in which zymotic diseases are propagated has afforded the ground of an interesting comparison between their diffusion, blight of vegetables, and the generation of animalcules.

Sydenham referred, in the following passage, to zymotic diseases, which were so rife in London, formerly, as to divert attention from pure inflammations; and, as they approach nearer than other diseases to the definition of species in natural history, justify the comparison which he has instituted:—

"If the humours are retained in the body beyond due time, either (1.) because nature cannot digest and afterwards expel them, or (2.) from their having contracted a morbific taint from a particular constitution of the air, or (3.) lastly, from their being infected with some poison; by these, I say, and the like causes, these humours are worked up into a substantial form, or species, that discovers itself by particular symptoms, agreeable to its peculiar essence; and these symptoms, notwithstanding they may, for want of attention, seem to arise either from the nature of the part in which the humour is lodged, or from the humour itself before it assumed this species, are in reality disorders that proceed from the essence of the species newly raised to this pitch [zym*ine*]; so that every specific disease arises from some specific exhalation, or peculiar quality of some humour [zym*in*] contained in a living body. Under this kind may be comprehended most diseases which have a certain form or appearance; nature, in fact, observing the same uniform method in producing and bringing diseases to a height or crisis, as she does in the production or growth of plants or animals; for as every plant or animal is possessed of peculiar properties, so is it likewise in every exaltation of any humour, after its being come to a species or disease. We have a clear proof of this every day, in those kinds of excrescences that grow on trees and shrubs (occasioned by the ill quality of the nutritious juice, or other

* See Liebig's luminous exposition of the doctrines of fermentation in his Chemistry of Agriculture, Physiology, and Pathology. Two vols.

† From ζυμοω, I ferment; zymosis—fermentation, and zyma—ferment, may also be employed in English, *not in the sense* which they have in Greek, but as general designations of the morbid processes and their exciters. *Zymosis*, and the verb from which it is derived, occur in Hippocrates. See a good note and quotation from Galen, by Fœsius, in the *Œconomia Hippocratis*, appended to the Geneva edition (1662) of the works of Hippocrates. *Coction* appears to have been used by the father of medicine with the same qualification as ebullition and fermentation by Sydenham. See his Treatise on Ancient Medicine, vol. i. Œuvres Complètes d'Hippocrate, par E. Littré, 1839.

* Louis.—Fievre typhoide. Vol. ii. p. 311.

causes), in the form of moss, misletoe, mushrooms, and the like; all which are manifestly different essences or species from the tree or shrub that bears them."—*Sydenham's Works, trans. by G. Wallis.*

Sydenham's methods of treatment were adopted by him, and recommended, as the results of experimental investigation. However, their use might have been suggested, their efficacy was determined by their apparent influence on the recovery of patients; but, in his exposition of therapeutic principles, he keeps constantly in view his theory of "commotion" (*commotio*); "a general term which he chooses in order to prevent all fruitless dispute about words that might arise from the use of fermentation, or ebullition (*fermentatio vel ebullitio*), which, though they may seem harsh and metaphorical to some, are capable of a commodious interpretation."* Thus, in speaking of "continued fever," he says, "with regard to this disease, I judge that the genuine indications are to keep the commotion of the blood [zymosis] within such bounds as suit the design of nature, so as to prevent its rising too high on one side, whence dangerous symptoms might follow; or sinking too low on the other, whereby either the exclusion of the morbific matter might be hindered, or the endeavour of the blood affecting a new state be frustrated."†

The early medical observers have directed attention to the analogies zymotic diseases have with combustion, fermentation, putrefaction, and poisoning. These analogies have been, to a certain extent, confirmed by the researches of modern chemistry; and Liebig has been led by the study of organic transformations,—fermentation, putrefaction, decay,—to develope a theory invented by the greatest practical physicians to explain the phenomena of zymotic diseases.

Liebig observes, "that physicians had referred formerly to fermentation merely by way of illustration:" from which it is evident that he had not had time to consult the English medical classics on this head, or he would have discovered not, indeed, an anticipation of his own admirable generalizations, but a theory very similar to his own,—the basis of their pathology,—founded upon enlarged views, and well calculated to prepare the way for his researches and the researches of other chemists.

Morton, in his Pyretologia, calls the principle which it has been proposed in a previous page to designate generically *zymine*, "*fermentum contagiosum*;" and the following definition is printed in italics in the introduction, and applied in the subsequent chapters of his work to the explanation of all the "*morbi universales acuti*"—

. . . . . "fomitem febriferum (the 'fermentum venatum' of a previous sentence) asseramus esse—Deleterium quid in spirituum systemate delitescens, quod fermenti ad instar eos adoriensatque oestro primum exagitans, deinde humoribus secundo quasi momento, varias mutationes atque qualitates morbosas nobis sensibiles impertit."—This, he adds, is his general hypothesis—"nostram generalem hypothesin."

Here we have the "deleterium quid" communicating its action like a ferment to the latent assumed constituents (spirituum systema‡), and by a secondary impulse, as it were, producing perceptible transformations (*mutationes*) in the blood, tissues, and secretions. The sentence also reveals a principle in physics, which Liebig has quoted in the words of Laplace and Berthollett, and to which he appears to think all chemical transformations may be referred:—"A molecule, set in motion by any power, can impart its own motion to another molecule with which it may be in contact."

The three great contemporaries, Sydenham, Morton, and Willis, lived in London when plague and epidemic diseases prevailed, and much as they differed, or were mistaken, on some points, all announced more or less clearly the zymotic hypothesis. They were not, it must be borne in mind, mere chemiatric theorists; they had studied diseased action as assiduously and with as much sagacity as modern chemists have studied fermentation; Willis was a great anatomist; Sydenham and Morton have left original pathological delineations, which have never been surpassed, and laid down plans of treatment which are still followed.

Liebig, Dumas, and the chemists of this country, will, we sanguinely hope, not rest satisfied with what has been done, but continue to prosecute their labours with ardour and success; and from the study of the series of transformations of nitrogenous compounds, proceed to investigate the transformations of the blood, tissues and secretions which accompany the production of varioline, typhine, and the other zymotic principles.

The differences of cancer, pneumonia, burn, and small-pox are well marked, but there are some points of resemblance between them; and in the groups, of which they may be considered types, many diseases occur, which have undecided claims to a place in the four classes, and may be referred, in the present state of our knowledge, indifferently to either group, so far as statistical purposes are concerned. The diseases of the epidemic character present the greatest difficulties in classification, and have given rise to most discussion. The importance of the question of contagion,—of the mode in which epidemic diseases are propagated,—and the laws by which they are governed—has induced me to reserve it for inquiry when the laws of those epidemic diseases, which the registers enable us to investigate, are under discussion. Upon the present occasion, it will be sufficient to state that no diseases have been placed in the class which have not been propagated by inoculation, been proved to be infectious, or described by good authorities as endemics or epidemics.

* On the continued fever of 1661-4, sect. 1-4. He adds, "But since the terms fermentation and ebullition have prevailed among the modern physicians, I have not scrupled to use them occasionally, meaning only to convey my thoughts more easily thereby."

† *Id.* sect. 5. See also on the regular small-pox, 1667-9, sect. 30-33.

‡ Morton adopted the hypothesis of animal spirits from Fernel, and though it enabled him to explain many phenomena happily, he did not fail to fall into absurdities, (for so we must now call them,) by employing it to explain everything; still such passages as the following admit of a scientific construction, and are another proof that the exploded theories of ingenious men always contain traces of important truths.

Spiritus animales esse *to enoryetikon* seu primum principium activum, et quasi fermentum universale totius corporis, a quo sanguis et humores varie agitantur, et immutantur, non dubito. T. 2, p. 7, 8.

Willis employed the chemical theory and the few chemical facts known in the seventeenth century with still greater rashness in his treatises *de fermentatione* and *de febribus*; yet he has many felicitous anticipations of modern deductions, and Liebig will admit that in the following passages the Oxford professor referred to fermentation for something more than an illustration. He is speaking of small-pox, measles, (and scarlatina.) Convenit enim homini, *omni, soli, et semel variolis aut morbillis* affici, (p. 165.) . . . . ista diathesis, seu naturalis prædispositio, quæ genus humanum ad hunc morbum inclinat, videtur esse labes quædam seu impuritas sanguinis, inter prima fœtus rudimenta in utero concepta. . . . . .

Licet autem *venenata hujus morbi semina utplurimum semel, et unica ægritudine solent dissipari*; quandoque tamen accidit, ut parte miasmatis adhunc relicta, bis, aut ter ægri in hunc affectum inciderint.

. . . . *Causa evidens*, quæ hæc *semina fermentativa* commovet, et sæpissime in actum deducit, triplex assignatur, scilicet, *contagium* aliunde susceptum, *dispositio aeris*, ac *immodica sanguinis et humorum perturbatio*. *Contagio* hunc morbum in alios serpere, lateque grassari, quotidiana experientia manifestum est: scilicet *a corpore infecto continuo decidunt effluvia, quæ ab aliis corporibus suscepta statim, instar veneni cum sanguine fermentescunt, et semina ejusdem affectus latentia, ipsisque longo exsuscitant*, et in hujus morbi ideam disponunt, nec solum contactu, sed ad distans miasma communicatur. . . . . peculiaris aeris dispositio; hinc sæpissime popularis evadit ac per totas regiones, urbes, vicosque passim desævit, p. 166.

He adds that the "immodica sanguinis, et humorum perturbatio" may arise from immoderate exercise or excesses.—*Opera Medica et Physica, Ludg.* 1676.

LECTURES ON CHEMISTRY.

By JOHN SCOFFERN, M.D., Lecturer on Chemistry, at the Aldersgate School of Medicine.

THE two simple bodies which have come under our notice, do not unite in any proportions by direct mixtures, a circumstance which seems to indicate that their mutual affinity must necessarily be very slight; however by certain indirect methods to be mentioned to you in this lecture, they may be made to combine in no less than four proportions,—the composition, and the names of which will be indicated by the table here exhibited:—

	Cl		O
Protoxide of Chlorine Synon. Euchlorus (Davy) Hypochlorous Acid (Balard)	1	..	1
Peroxide of Chlorine Chlorous Acid	1	..	4
Chloric Acid	1	..	5
Perchloric Acid	1	..	7

The slightest glance at this table leads us to believe that there are other compounds of chlorine and oxygen as yet unknown. In order to render the gradation perfect, so far as it goes, two compounds of chlorine with oxygen must be discovered, and inserted between the protoxide and peroxide, and one between chloric and perchloric acid.

The protoxide of chlorine was discovered by Sir H. Davy, in 1811, and on account of its peculiar colour, which is a very deep yellow green, he termed it euchlorine. He prepared it by mixing together in a retort two parts of chlorate of potash, with one of water, and one of hydrochloric acid of commerce. To this mixture a gentle heat was applied, and the gas in question came over, necessarily contaminated, however, with a variable portion of chlorine, which circumstance was the cause of a great deal of dispute in regard to the exact composition of this gas. Davy found its specific gravity to vary, which circumstance, as you are aware, must necessarily have added weight to the supposition that the euchlorine of Davy was not an actual chemical compound. Moreover Davy imagined that five volumes of this gas expanded, on the application of heat, into six, which proportions reduced to their lowest terms are in the ratio of $1\frac{1}{4}$ to $1\frac{1}{2}$; since half a volume is regarded as the atomic or combining size of oxygen. Were these data correct, the atomic or combining size of this gas should be $1\frac{1}{4}$ volumes, which would be altogether dissimilar to the combining size of any other gas. Hence until lately, the euchlorine of Davy was thought by many chemists to be merely a mixture of peroxide of chlorine, and pure chlorine, in variable proportions. Soubeiran, I believe, was the first who suggested the probability of these conditions. He passed it over calomel, by which the excess of chlorine was absorbed, and peroxide of chlorine was liberated. Sir H. Davy, too, had observed that water resolved it into the same gases. It remained for M. Balard to clear up the difficulty; this gentleman, during his investigation of the nature of bleaching compounds, succeeded in making the protoxide of chlorine by an entirely different process, and in a state of complete purity. His plan consisted in agitating peroxide of mercury with water and chlorine gas; the latter abstracted from the oxide of mercury, a sufficient quantity of oxygen to form the protoxide of chlorine, which, combining with the water, formed a yellow solution, analogous to the solution of Davy's euchlorine in water. This liquid is now distilled in vacuo, by which means a dilute solution of the protoxide of chlorine is obtained, and from this the gas itself may be developed by the following process. I take an inverted vessel of mercury and throw up into it a little of the fluid; next I insert a few fragments of nitrate of lime,

which absorbs water, and together with it, forms a layer that swims on the surface of the mercury, and protects it from the action of the gas. Protoxide of chlorine, thus obtained, and called by Dumas, hypochlorous acid, is found to be composed of 1 volume or equivalent of chlorine, and half a volume or 1 equivalent of oxygen condensed into 1 volume; a fact demonstrated when the gas is decomposed by means of a heated substance, under which circumstances four volumes expand into six, two of which are oxygen and the remainder chlorine. For all common purposes of illustration, the impure protoxide, or euchlorine of Davy may be employed, inasmuch as there is not present chlorine enough to veil its leading properties. With respect to the decompositions in the processes for making it, they are as follow. When hydrochloric acid, water, and chlorate of potash are heated together, the results are protoxide of chlorine, free chlorine, water, and chloride of potassium; this you are aware was Davy's original process. As to Balard's process, the rationale is that peroxide of mercury yields up oxygen to one portion of chlorine, and another portion unites with the mercury to form a chloride of that metal. If the oxide be in excess (as it always should be,) the chloride and oxide of mercury unite, forming the oxychloride. The properties of this gas, besides those which have been casually mentioned, may be briefly summed up. Its colour is a very deep yellowish green, and it possesses bleaching qualities. Unlike chlorine, it does not support the combustion of copper leaf; water absorbs 100 volumes of it. On plunging a heated wire into this gas it explodes, although not very violently, and expands in the ratio already mentioned. Its specific gravity by theory is 3021-3, its atomic weigh, 44, and its formula Cl. O. This gas, which Balard terms hypochlorous acid, combines with bases forming hypochlorites. These are valuable bleaching agents, and will hereafter be referred to again.

The next compound which we have to investigate, the peroxide of chlorine, called also chlorous acid, and hypochloric acid, is a very dangerous agent, and must be prepared and manipulated with much caution. It was discovered in 1815, by Sir H. Davy, who obtained it by heating gently a mixture of sulphuric acid and chlorate of potash. The decomposition is exceedingly simple; sulphuric acid sets chloric acid free, which immediately breaks up into two new compounds, peroxide of chlorine, and perchloric acid; the latter becomes attached to potash, forming perchlorate of potash, mixed with bisulphate of potash, and peroxide of chlorine escapes. In books, this very dangerous compound is recommended to be prepared in a retort, the source of heat being a water bath carefully maintained below the temperature of 212 deg., and the gas is to be collected over mercury, or by displacement. I will show you the explosive properties of this gas presently, evolved on a much smaller scale. After witnessing these effects, those who like to make peroxide of chlorine in a retort *may* do so. I content myself with preparing it in a tube.

Into a little tube containing a few grains of chlorate of potash, I pour a few drops of sulphuric acid, and now I apply the necessary degree of heat by holding the tube in my hand; the gas is rapidly developed. I shall not transfer it into another tube, but will test it in the same. Its colour you will observe is a very bright yellow, and its smell is narcotic. It is rapidly absorbed by water, and the solution bleaches. So feeble are the mutual attractions of oxygen and chlorine in this compound, that even the slightest causes separate them, and a violent explosion is the consequence; under these circumstances, 100 volumes expand into 150, 100 of which are oxygen; proportions which correspond to 1 equivalent of chlorine, and four of oxygen: its specific gravity (calculated) is 2337.5. In order to demonstrate the explosive properties of this gas, I first immerse into the tube containing it a hot wire, decomposition immediately results, attended with a loud report. Into another tube containing it, I immerse a bit of phosphorus; a violent explosion again is the consequence, and the phosphorus burns brilliantly in the resulting mixture of oxygen and chlorine gas. This experiment is not unattended with danger, but I will show you a modification of it which is quite free from danger, and which is, at the same time, exceedingly pretty. I drop into a deep conical glass containing water, a few crystals of chlorate of potash and phosphorus; on the two latter I now pour a little sulphuric acid, by means of a funnel; peroxide of chlorine is evolved as before, and coming into contact with phosphorus under water, the explosions which result are quite free from danger.

This compound is very justly termed by chemists, chlorous or hypochloric acid. It unites with bases to form a class of salts termed chlorites, or hypochlorates, but not being of much importance we need not enlarge upon them. The next compound in our list is chloric acid, a compound of 5 eq. oxygen, and 1 chlorine. It is prepared by adding to chlorate of baryta, sulphuric acid, a substance which has the property, as every chemical tyro knows, of forming a most insoluble substance with baryta, (sulphate of baryta,) so that chloric acid is liberated and remains combined with the water, from which, like the nitric, it cannot be completely separated. This acid cannot be obtained solid; when a solution containing it is evaporated, it is resolved into chlorine, oxygen, and perchloric acid. It neither bleaches, nor precipitates a solution of nitrate of silver. In its strongest form it possesses the consistence of an oil, and from its facility of giving oxygen, it sets fire to many organic bodies, and is a powerful oxidising agent. This acid forms by uniting with bases, a class of salts termed chlorates, which may be recognised by the following properties. They deflagrate when thrown on charcoal, and paper imbued with them becomes converted into touch paper; any salt having this property must be either a nitrate, a bromate, iodate, or chlorate. By exposing a chlorate to a red heat, it is converted into a chlorite and chloride, the latter is usually the more soluble of the two, and its solution has the property of yielding with nitrate of silver a precipitate which is soluble in a *weak* solution of ammonia, and insoluble in nitric acid. Moreover, chlorates become red on the application of sulphuric acid, which is a perfectly distinctive test. I have mentioned that chloric acid is prepared from chlorate of baryta. I ought, perhaps, also to mention how this chlorate of baryta is obtained, premising that if potash be substituted for baryta and exposed to the action of chlorine, precisely analogous reactions take place. On passing a stream of chlorine gas through a solution of potash, a combination results, the composition of which is very imperfectly known. Its nature will be discussed at a subsequent period of our lectures. I must content myself at present by saying that when boiled, oxygen is given off in great quantity, and the dry material which remains, is a mixture of chlorate of potash and chlorate of potassium,—the former salt crystallizes first and may be separated. If baryta be substituted for potash, analogous results take place.

The next and last compound of oxygen and chlorine, is the perchloric acid, remarkable for the large quantity of oxygen which it contains, and for the very insoluble compound which it forms with potash; consequently it is a very excellent test for this alkali. With respect to the preparation of perchloric acid, I must remind you of the insoluble salt prepared during the evolution of peroxide of chlorine. This is the perchlorate of potash, which, by distilling it with a mixture of equal parts sulphuric acid and water, yields *dilute* perchloric acid, a condition in which it possesses the greater utility. However, it may be obtained in a solid form by using a great excess of sulphuric acid. Dilute perchloric acid is always kept in chemical laboratories as a test for potash, which it precipitates, as also do tartaric, with the hydro-fluo-silicic acids, and chloride of platinum. No substances, however, precipitate soda, hence the two alkalies may thus be distinguished. Although perchloric acid contains such a large quantity of oxygen, yet it is a remarkably stable compound, which is rather extraordinary. It is not decomposed by hydrochloric acid, although as we have observed chloric acid is; by this test, the two may be distinguished.

SPINA BIFIDA.

(To the Editor of the 'Medical Times.')

Sir,—As this disease appears to have attracted the attention of some of your correspondents, the following case may be interesting.

I was sent for some time since, at Maidenhead, to see a male child, which was described in the note as "unnatural." It was a patient of Mr. Bishop, surgeon, at Maidenhead, was ten days old, fed very heartily, and the features were those of a child considerably older. It was an ordinary case of *spina bifida*, but the tumour was situated somewhat higher up than usual. It was agreed by Mr. Bishop and myself, that nothing could be done with any reasonable hopes of success, and the task of communicating this intelligence to the mother fell to my lot. She received the opinion with wonderful equanimity, and requested me to return to Maidenhead again. At the termination of about three weeks I again visited the patient. It was still alive, but sinking fast. Mr. Bishop was again in attendance. The child, as predicted, died the following night, and the tumour was examined by Mr. Bellis, surgeon, the partner of Mr. Bishop. The *post-mortem* examination presented the usual appearances. The only circumstance attending the case which seems worthy of notice, is that the patient lived for a month, otherwise in good health, and even at that early age, knew its nurse and mother.

I agree with your correspondent "Medicus" that "it is much to be regretted that the repositories of medical facts are so little consulted by the young practitioners of the present day, who frequently bring forward as new, observations and operations that have been made or performed over and over again, before." The fact is, that as soon as a young man passes "the Hall" he thinks he has unlocked the stores of medical knowledge, whereas he has barely possessed himself of the *key*.

I am, Sir, your obedient servant,

EDWARD BINNS, M.D.

21, Montague-street, Portman-square.

[It is rather singular that the modest enquiry which led to the smart objurgations last week of "Medicus," and the notice now, of Dr. Binns, came from a gentleman (an M.D. also) who, we have reason for believing, is the senior of both, and whose communications to us show him to be anything but an inconsiderable reader.—Ed.]

Sulphate of Quinine in Rheumatism.—M. Devergie prescribes five grains of sulphate of quinine, either in the form of pill or mixture, to be taken four times a day. This quantity to be increased according to the intensity of the disease and the tolerance of the individual. He has never exceeded a drachm or a drachm and a half in the 24 hours. He advises reserve in the administration of this medicine, and especially, not to commence with such elevated doses, as some have recommended. M. Devergie cites two cases which terminated fatally, in one of the Parisian hospitals, in consequence of the cerebral affections determined by too large doses of this medicine. He gives the particulars of three cases of acute articular rheumatism successfully treated by this plan; but it is important to remark, that none of these cases presented anything beyond simple rheumatic pains, and were unaccompanied by redness, swelling, or acceleration of the pulse. In six cases of chronic rheumatism, the pains ceased in less than three weeks, under the employment of this medicine. Great caution is requisite in applying this treatment to plethoric subjects or those pre-disposed to cerebral congestion.

TO CORRESPONDENTS.

A Constant Reader.—*Our first edition is ready every Thursday evening at five o'clock, and our Correspondent when told that other medical journals are not published until Friday or Saturday, will see that it is not we that sin, but we that are sinned against. As last week we saw the Hunterian given in another journal, we should not be surprised to see our case of Mr. Carlile similarly given in this.*

An Old Practitioner.—*We shall consider the paper.*

X. Y.—*The Communication should be authenticated.*

P. T. *should consult a respectable practitioner.*

P. N.—Mr. Hay—Pater—Mock Coroner—A Constant Reader, Edinburgh—*declined.*

The cases by Mr. Brunel, and Mr. Philip Kean are under consideration.

Mr. James Pearsons, Ancoats-Street, Manchester.—*If this gentleman, who has been on our books a very considerable time without paying a single fraction of his arrears, or even noticing them, do not forthwith settle his account, the publisher will decline sending him any further numbers. A medical journal, however good, is not so much an article of necessity as to justify in any case dishonesty as a means of procuring it.*

THE MEDICAL TIMES.

SATURDAY, FEBRUARY 25, 1843.

Quis, Catilina, tuis natalibus atque Cethegi
Inveniet quicquam *infimius?* Arma tamen vos
Nocturna et flammas domibus templisque parastis
Ut Braccatorum pueri, Senonumque minores
Ausi quod liceat tunica punire molesta.

JUVENAL.

It has been well said, by an erudite friend, that the future Plutarch of our age when recording the biography of its *great men*, will find it of service to divide the life of one of its *purest* (the *tertius a cœlo cecidit Cato* of Lord John Russell)—we mean, of course, Mr. Wakley—into the two periods preceding and following the conflagration of his drug-shop. The great fire of London—he insists—was not a more remarkable, nor that of Moscow a more accidental, circumstance, in the annals of those two cities, than the little fire of "the beggarly account of empty boxes," in Argyle-street, to the honourable member for Finsbury. As London rose, phœnix-like, from the one, so did Mr. Wakley from the other: and what the metropolis has consequently grown among cities, that has the ex-apothecary become among his brethren. Considering this, however, if not a bad, an imperfect distribution of epochs, we would take a somewhat different direction. We should choose to divide the honourable member's important life into the two grand periods—before and after his accession to the dignity of metropolitan coroner. In the first, we should picture him as centralizing every less profitably engaged energy in the work of proving, by words, the uselessness of *non-medical* coroners. In the second, we should paint him similarly absorbed in demonstrating, by facts, the mischievousness of *medical* coroners. If any further division would be required, it would have reference to the crowning period, apparently not far distant, when his efforts in both directions, verbal and active, shall have accomplished the utter cessation of inquests, under either medical or non-medical coroners.

It is said that your truly great men prove the genuineness of their mission by the accomplishment of some one great object. Is this distinction—which is supposed to have characterized Socrates, Aristotle, Alexander, Mahomet, Luther, Bacon, Newton—to be unpossessed by Mr. Wakley? Belonging evidently to their honoured order, it is not to be doubted that a great mission is entrusted to his destiny. If it be not coronatorial destruction, what—(will any kind reader tell us)—what is it? In every other field of action, how completely has he belied expectation! In every other public sphere of action, how emphatic a nullity! As a medical reformer, how entirely has he eluded notice: as a statesman (a statesman!) how entirely has notice eluded him! In every thing, but his one mission of destruction, how true to his great destiny—how in plenitude a nobody!

Many persons, we are convinced, have thus formed humble opinions of Wakley's mental powers—others, of his moral virtues—from not paying attention to this grand guiding, but secret principle of his life. In the darkest passages of morality, in the foulest lanes of literature, Wakley was only taking, if not the straightest, at least the surest way to the goal of coronatorial destruction. Who that hears this disclosure of a purpose so secret when unnoticed, so obvious when once thought of, does not summon up at once as proof, the earnest, if clumsy, re-productions (*en petit*) of Cobbett's powerful style, directed, in the *Lancet*, against non-medical coroners, till the single-minded writer was himself made *medical* coroner? Could any one, reading them, doubt that non-medical coroners were a nuisance as costly as foul? And since Wakley, as a boon to the public, accepted the coronorship, what one thing has he, or could any man have done, so constantly and energetically, as the demonstration of the mischievousness of *medical* coroners? Do our readers believe that, to a man of Wakley's superior senses—nay, to any man not a lunatic—his perpetual wranglings with the reporters (the Mercuries, as it were, of the great Joves of the press) could have had any object less than this? — or his bitter collisions with the chiefs of the police-courts?—or his deadly enmities with the Middlesex magistrates?—or his contemptuous disregard and neglect of his *former* medical brethren? The very notion is absurd: and the ready key to all these apparently anomalous and maniacal proceedings is found in the simple fact discovered by us (and we will not be robbed of the honour of the discovery) that they all form a portion of the grand scheme of this great man's life—THE DESTRUCTION OF CORONERS' INQUESTS.

But though all this was much—so much as to be only excused by the great good of the end such equivocal means were to achieve—Mr. Wakley had the mortification to find the sacrifice useless. Did he, *therefore*, give up the great aim? To answer in the affirmative, would be to indicate a poor acquaintance with his character. On the contrary, as the necessity increased, so did the efforts: much was followed by more; and Mr. Wakley has so far done violence, on the one side, to his hatred of public money, as to hold as many inquests as the utmost ingenuity could manage weekly to manufacture for him; and, on the other side, to his love of public justice, as to make these inquests perfectly inoperative for the detection or prevention of guilt? Could a great man, in a noble cause, do more? We know the incredulity of our age towards transcendant merit, and will not have our eulogiums rest on unsustained assurance. We have been furnished with one instance, which, if taken as a specimen case, will do more in illustration of Mr. Wakley's *modus operandi*, than a folio of the vague panegyrics his friends (if he have any) might be disposed to heap upon him. Here it is:—

For the last few days the little suburban village of Hornsey has been roused from its ordinary quietness in consequence of the sudden death of a young man named Pledger, carrying on the business of a chemist in that neighbourhood. Reports were soon spread that he had died from the effects of poison, which coming to the ears of the parish beadle, that functionary thought it was his duty to circulate the report by waiting upon Mr. Wakley, the coroner, who ordered an inquest to be held. The jury was empanelled on Wednesday last, and on viewing the body with them, the coroner is reported to have used the following words, at the same time lifting up the deceased's head;—"Ah, gentlemen, this is a sudden death; the man has died from a diseased heart. I've no doubt, *and there will be no occasion for a medical man.*" The jury returned to the inquest-room, and, after hearing evidence as to the suddenness of the deceased's death, returned a verdict of "Natural death." The friends of the deceased not being so fond of doing without medical testimony as the coroner, determined on having the body opened, and the actual cause of death explained. Accordingly, Mr. Baker, of the New North-road, and Mr. Hands, surgeon, undertook the *post-mortem* examination, and on opening the abdomen there was a strong smell, like prussic acid. On opening and analysing the contents of the stomach, nearly an ounce of the essential oil of almonds was found, enough to kill upwards of a dozen persons, and from the effects of which Mr. Pledger had died. On the result being made known to the friends, it was understood that the whole facts would be laid before the Middlesex magistrates, and that proceedings would be taken to quash the inquisition. The above shows the necessity of *post-mortem* examinations in all cases of sudden death, without taking the *dictum* of either a medical or a non-medical coroner as to the cause.

If the non-medical journal (the *Times*) expressing this last opinion, wish to imply a censure on Mr. Wakley, because he, a medical coroner, and the former proprietor of a medical journal, to save the fee to a medical man for a *post mortem* examination, —allows crime all the certitude of concealment which the abuse of coroners' law can give it—we venture, with much respect, to express a difference of sentiment. It is plain the accuser has not reached the altitude of the coroner's influencing motive; he does not hold the golden key to those grand views which we have discovered: it was not known to him that this was part of a system—an essential step to the *dénouement* in the drama of a great man's life

—one link in the vast chain of coronatorial extinction!

A small man, aghast at small matters, might be weak enough to stagger in his course by the consequences of such unenquiring inquests, and unveracious *verdicta*. If such off-handed assumption—he would say—of the offices of both witness, jury, and judge, be tolerated, what a rendezvous will Middlesex become for every person inclined to make away with a rich, useless, and everlasting old uncle, aunt, or parent? The murderer has only to introduce his victim within Mr. Wakley's jurisdiction, dose him with a powerful poison, and he will have the honourable gentlemen driving up to his house—"lifting up the deceased's head," exclaiming, "Ah, gentlemen, this is a sudden death: the man has died from a diseased heart, I've no doubt; and there will be no occasion for a medical man,"—and the murderer will carry the immunity of a medical coroner's certificate of his innocence, with the attestation that his relative died a "Natural death" To persons who can thus reason, argument must be thrown away. They can neither see the advantage of centralizing the body of poisoners in the medical coroner's district—(and we wonder in which other's they are offered equal attractions?)—nor feel how incomparably trifling are such petty considerations, when poised against the fulfilment of the great object of a great man's life—the destruction of the institution of coroners!

But seriously—how long are we to have inquests a heavy burden to rate-payers—a severe time-taxer to juries—merely to form a legalized *coverer* of poisonings? Is the administration of justice to be mocked for ever by expensive enquiries, or rather inquests, about *accidents* beyond the possibility of suspicion as to a culpable cause—and to have the sudden deaths which may have arisen either from poison or disease, or both—*the distinction of which, no man can reach, except by post-mortem examination*—and are we to have these placed beyond the pale of legal investigation, by a verdict of natural death, dictated by an ignorant and impatient coroner, and accepted by a silly jury, before whom not the least atom of reasonable, nay, ATTAINABLE, data, is allowed to be produced?

Since the above went to press, Mr. Wakley has rallied the scattered jury, and after due discipline, has succeeded in arraying them against the *Times*' statement of his inquest in formal columns of leaden type.

We were not unprepared for this manœuvre. The day before the version of the daily paper appeared, a gentleman narrated to us all the circumstances, and we delayed their publication from our last number, simply, because we were resolved so to give them, as to leave the worthy coroner no corner in which his cunning might succeed in sheltering him. But though prepared for the trick, we must own we are still surprised at its clumsiness. If we understand the charge, its gravamen is, that Mr. Wakley, in a case of *sudden* and *suspicious death*, caused no post mortem examination, and though the party was poisoned, *Mr. Wakley gave his certificate that he died a natural death*. The jury do not rebut one iota of this accusation. On the contrary, while tacitly admitting all this, they declare what was previously *unstated*, that one of the jurors asked the pertinent question (what a strong presumption against the coroner) "whether the medical man, who saw the deceased after death, should not be called in?" The coroner's answer satisfied the juror that there was no cause for his testimony! That the deceased *was poisoned* is beyond doubt; WE have, for the fact, the personal assurance of a medical gentlemen present at the autopsy: that Mr. Wakley declared, WITHOUT EXAMINATION, that he was NOT poisoned is equally indisputable; it is proved, irrefragably, by the recorded false verdict "NATURAL DEATH."

CURABILITY OF CONSUMPTION.

(Continued from page 328.)

(To the Editor of the 'Medical Times.')

SIR,—When we consider the exquisitely fine gossamer-like tissue of the air-cells, their prodigious number, and immense extent of surface, we need not wonder at the facility and certainty with which they can be expanded, and the important changes consequent on effecting this object. Their free and ample exposure to the atmospheric air is necessary to prepare the blood by arterialisation, for the nutriment of the system, and in proportion as their area is invaded, will the sanguification be imperfect, and the due evolution of the animal heat interfered with, on which the healthy action of all the vital organs so absolutely depends.

The following cases corroborate those already adduced, in proving the power which pulmonary expansion exercises over consumption.

M. Lebeau, physician to the King of the Belgians, and principal physician to the military hospital at Brussels, in the preface to his translation of Dr. Ramadge's Work on consumption, mentions, that having long devoted his attention to this disease, he has been himself struck with the conviction that asthma has the power of arresting, as well as preventing it, and that he could cite a considerable number of facts to illustrate this statement, but confines himself to one of recent date, and complete in its details. M ——, aged 48, a captain of an infantry regiment, presented himself April 26, 1836, at the military hospital at Brussels, with a view to obtain a certificate to exempt him from active service, in consequence of habitual dyspnoea. He complained of no other ailment, and was of full habit; his chest of remarkable amplitude, respiration wheezing, the sibilant râle was heard throughout, the heart's action regular and moderate, the pulse calm and natural, and the face exhibiting no signs of venous congestion. He gave the following account of his case, in the presence of Dr. Coombe, of Edinburgh, who happened to be there at the time, Drs. Limauge and Biefve, of Brussels, and several pupils:—"In 1816, after severe fatigue, I was attacked with cough and copious expectoration, wasted away rapidly, and was subject to shiverings in the daytime, and perspirations at night, with wandering pains below the collar bones. My medical attendants repeatedly assured me I was consumptive, and could not long survive. While matters were in this state, I was seized with a difficulty of breathing, to such a degree, that I was obliged to get out of bed at night and repair to the window to breathe fresh air. From this period my strength began to return, the perspirations ceased, and I soon became of as full habit as you now see me. My chest, which was flat and contracted, enlarged in an extraordinary manner, and I was completely cured, save the difficulty of breathing, for which I could obtain no remedy."

M. Lebeau adds that Dr. Canstatt, a young physician of great merit, had related to him a similar and strikingly illustrative case which had occurred in his own family. Among other remarks worthy of attention in his preface, he makes the following very interesting and curious one:—"Taking into consideration all the circumstances preceding and accompanying this disease, and the appearances after death, I have had the most satisfactory evidence that the compression on the upper part of the chest of young soldiers, caused by the weight of the arms and accoutrements, has contributed very much to the occurrence of phthisis."

The subjoined cases are submitted as examples of the benefits derivable from pulmonary expansion by measured mechanical respiration:—

Miss ——, aged 23, the daughter of a member of parliament, was attacked by consumption, displaying itself in the usual manner by cough, expectoration, night sweats, and gradual emaciation. A few months after its commencement, one of her tonsils acquired considerable size, and coincidently her symptoms showed signs of amendment. This tonsil, after a short interval, suppurated, and the signs of amendment soon disappeared. Her relatives now began to entertain serious apprehensions, more especially as she had lost a brother and two sisters by consumption within a few months. Dr. Ramadge was called in, and felt satisfied, upon examination and enquiry, that disease had commenced in the right lung, and been interrupted by the enlargement of the tonsil. He also ascertained that it now existed in the summit of the left lung. The chest was flat and contracted, both the collar bones very prominent, and the infra-clavicular depression on the left side remarkable. The constitutional disturbance and preternatural heat of the chest were reduced by the application of a few leeches occasionally, between the second and third ribs of the affected side, and the administration of nitre and tartarised antimony, &c. Tonics and sedatives also were prescribed, to support the system and allay irritation. The patient however, was taught to place her chief reliance on the artificial respiration, and not expect results sooner than a month, that is, in a very sensible degree. By perseverance in the use of the inhaling apparatus, her strength gradually returned, the appetite improved, the nocturnal perspirations ceased, the quality of the matter expectorated was amended, a satisfactory respiratory murmur became audible, the frequency of the pulse abated, the countenance resumed its former animation, the chest expanded, and she increased in flesh, and the entire constitution was renovated. Before these desirable results were gained, she had twice or thrice, within six months, fresh liquefactions of pre-existing tubercles attended, of course, with more or less renewal of the constitutional symptoms, during which the expectoration showed the softened opaque tuberculous matter minutely subdivided and suspended in the muco-purulent sputa. With the exception of these changes the cure went steadily on, till recovery took place. The great augmentation of flesh and enlargement of the chest that followed, were particularly noticed by the respectable circles in which she moved, to whom she is in the habit of explaining the improvement that has taken place, by throwing her shoulders upwards and forwards, thus bringing the clavicles greatly in advance of the upper ribs, in imitation of the appearance of the chest in its previous state, that they may judge by contrast. This patient had used the tube for the space of about twelve months, three times a day as directed, and her symptoms had disappeared some months before she left it off.

Hohnbaum, the distinguished German pathologist, who has translated Dr. Ramadge's Work into his native language, strongly recommends this extension of the term of its use for the sake of security. About two years afterwards, at the close of the gay season in London, Dr. Ramadge was again called in to see her. She complained of cough and pain in the lower scapular region, which he attributed to fresh softenings of old tuberculous nodules. Appropriate medicinal treatment, with the use of the tube, soon removed these symptoms of relapse,

and she has not since required any medical advice. The mechanical respiration in this case, has prevented the deposit of fresh tubercles, and altered that peculiar habit which generates it.

Her eldest sister, with whom she had been in the habit of sleeping, a few months previous to her attack exhibited unequivocal signs of consumption; and though having the advantage of the most distinguished advice, experienced no relief till she removed to Hastings. The bracing sea air, and horse-exercise which she here enjoyed, brought about an amelioration, so far as to check the most distressing symptoms, and do away with the cough, but she still remained in a very delicate state. The satisfactory result of her sister's treatment induced her mother to draw Dr. Ramadge's attention to her case also. He found her chest very much contracted, the middle of the collar bones standing out nearly three fourths of an inch in advance of the upper ribs, which were, of course, greatly depressed, particularly those on the right side. Auscultation discovered in the summit of the right lung clear indications that consumption existed in a latent form, attended with an insensible excavation. For the improvement of her general health, tonics, chiefly quinine, with preparations of iron, were occasionally prescribed, and for the local affection, the artificial respiration was steadily employed. The result was, that under this treatment, she rapidly improved, the chest expanded, her complexion from very pale, became somewhat florid, and the functions of the system, which had been deranged by the constitutional debility, were restored to their normal action. She was subsequently married to an individual of noble rank, by whom she has had two children, and her general health has not since been interrupted by any phthisical manifestations.

In examining the chests of the remaining members of the family, Dr. Ramadge's attention was directed to that of a younger sister, which was preternaturally full and large, forming a remarkable contrast to the two preceding. Her general appearance was that of robust health, the complexion florid, and her size and growth beyond her years. From the conformation of the chest, he at once suspected that there was some physical impediment to the respiration, which on inspecting the throat, proved to be the case; the tonsils being so large as almost to meet. This enlargement at times interfered with the voice. There was nothing remarkable in the respiration, except that it was puerile. He explained to her family and her father, who was present, the connection between the tonsils and the highly developed chest, and added, that although he could not by the ear, detect the signs of tuberculous disease yet he had no doubt, the peculiar habit which had given rise to this unusual tonsillary enlargement, had also led to the deposition of tubercles, and that they existed in a scattered form in the lungs. With a view to lessen the susceptibility of mucous irritation in the throat, he suggested the propriety of diminishing the tonsils, by a leech applied occasionally below each ear, to be succeeded at times, by moveable blisters. Sarsaparilla to improve the general habit, and iodide of potassium to promote absorption, were also recommended. This treatment was adopted, and the tonsils were reduced in size. The young lady was sent to a school at Brighton, where the tonsils became still more diminished, from the sea air; and her chest, after some time, began to flatten, and other signs of phthisical disease, betrayed themselves. She had been forewarned to use the tube, to make up by art, for the loss of protection derived from the lessening of the tonsils, but neglected it. She returned to London for advice. Dr. Ramadge, who was called in, pointed out that the reduction of the tonsils, coupled with the operation of some exciting cause, had brought on the softening of the tubercles previously suspected, and that the flattening of the chest with the other symptoms, would have been prevented, had his directions relative to the tube been observed. Finding her constitutional symptoms urgent, he advised the abstraction of blood from the upper part of the chest by leeches, attention to medicinal remedies alleviating and preparatory, and the regular employment of the artificial respiration. These were followed up some months at Brighton, to which place she after a short time returned, and finally got quite well, in the identical locality where the disease had first declared itself in a manifest form.

The eldest son of this family had recently returned from a continental tour, undertaken to improve his general health, which was delicate. On examination, no evidence of disease was detected by the ear, but his chest was very much contracted, and his general appearance by no means healthy. He had spent some time among the mountains of Switzerland, where the climbing of ascents was well calculated to excite his lungs to deep inspirations. But the flatness of the thorax, the tuberculous diathesis prevalent in the family, the absence of tonsillary enlargement, disease of the heart, or any other protective, led to the conclusion that his lungs were extremely liable to tuberculous invasion, if not already tuberculated. He had just obtained a commission in a light regiment and was about to join it, a course which could not fail to be approved of, as the exercise, which includes a great deal of running, would prove highly favourable to the proper expansion of his lungs. The service agreed with him remarkably well, he liked it much, and was exceedingly active; his chest expanded, and his general health was considerably improved. After some months he married, and about a year subsequently, the regiment to which he belonged was ordered to hold itself in readiness for foreign service, on the breaking out of the war in Syria. Being the presumptive heir to a peerage, and by the particular desire of the nobleman whose daughter he had married, he retired from the army, very much against his own wish. This change from an active to a comparatively inactive life, was followed by an impaired state of his general health, and a cough. Four months from its commencement, he came up to town and had the advice of one of her Majesty's physicians in ordinary, who considered his case decidedly phthisical, and exceedingly serious, and directed him to proceed immediately to Tonbridge, giving him the name of a medical man, under whom he was to place himself. This was in the middle of summer, and in the early part of autumn he was to leave for Nice. He had applied to this physician for advice in the first instance, by the particular request of two noble relatives, but before acting on it, consulted Dr. Ramadge, whose treatment of the other members of the family had proved so successful, and who found, on examination, that the right lung was diseased, and that the difference between the semidiameter of this side of the chest and the other amounted to nearly an inch and a half. The usual symptoms, cough, nocturnal perspirations, &c., were present. Considering that it would be highly improper to send him away in such critical circumstances, from the very place where it might be expected he could procure the best attention, that it would be, in fact, a virtual abandonment of the case, he dissuaded him from his proposed journey, and apartments were in consequence taken for him near the residence of his parents, a short distance from Hyde-Park. Due attention having been now premised for the relief of the constitutional symptoms, he was placed under a course of mechanical respiration, and shortly began to show evident signs of amendment, which ended in recovery, and thus superseded all necessity for leaving town or going abroad. Two winters have elapsed, and he still enjoys immunity from any return of the symptoms.

The above cases are not the less interesting from the circumstance of having occurred in one family, shortly after three of its members had been cut off by consumption; and it is not going beyond my own conviction to say, that but for the use of the mechanical respiration, these, in all probability would have shared the same fate. In none of the cases did the mechanical treatment operate injuriously, and the cures have so far proved themselves permanent, that after the lapse of a considerable time, they all enjoy excellent ordinary health. As a proof of the satisfaction this highly respectable family derived from the success of the treatment, Dr. Ramadge has been indebted to their expressions of approval for the confidence reposed in him by some of their friends, who have since applied to him for advice under similar affections. It is not a little remarkable that all its members attacked with consumption who had not adopted this peculiar treatment died, and the remainder—seven in number—who availed themselves of it are now living, and in excellent health. The conjoint features in their history afford at once, negative and positive evidence of the soundness of the principles assumed in the preceding arguments. Some of these details are worthy of remark. In the first case, the pulmonary affection showed itself originally in the right lung, and here we see it retarded, and driven back as it were, by the accidental enlargement of the left tonsil: on the return of this gland to its former size, we find the consumptive indications reappearing, the site of the disease having changed from the right to the left lung.

I may here incidentally remark, that the greatest amount of disease is almost invariably recognisable before and after death in the left lung. I have heard this accounted for by my preceptor, as well as I can recollect, in the following manner. When tuberculous deposition first commences, it is generally in the summit of both lungs, but greater in the right than the left, and therefore solution is first discovered in the former. After this, it will often happen that some accidental circumstance interrupts its progress by expanding the pulmonary tissue in the neighbourhood of the disease, and this expansion will be greater where the tuberculous deposit is more extensive, *i. e.*, on the right side. The more this tissue is expanded, the less susceptibility does it retain of new tubercularization, and hence the disease, if not subdued, as it advances, spreads more on the left side,—makes its first reappearance there, and its most extensive ravages in that lung.

The effect of tonsillary enlargement is also seen in a very marked and unequivocal manner in the third case, where the chest was prematurely full, and well developed during its presence, but sunk into an opposite state of contraction upon its removal. The whole family indeed, evinced a predisposition to the malady. Tubercles had formed in all their lungs, but in the cases adduced, their liquefaction had been kept back, and controlled partially and temporarily by natural antagonistic causes, and ultimately in a permanent way by art, which stepped in with aid, more certain and decisive than nature. Some credit was, no doubt, due to the medicinal treatment, both preparatory and accompanying, and this is a part of the question that will be considered in its proper place, but the complete failure of mere medicinal treatment in similar cases, or its very modified and unsatisfactory results, argue strongly that the mechanical respirator had to bear the brunt of the action, and may with justice lay claim to the credit of success.

The fourth case exemplifies the absence of necessity for removal from town, either to the country or abroad, under manifest phthisis. The practice of sending patients away from their friends and their country in this disease, appears to me incapable of being defended. The chief argument in its favour would seem to be precedent. The fashion has so long prevailed, that the propriety of it has ceased to be questioned. This deference to precedent should be left to the gentlemen of the long robe; it is not at all applicable to medical practice.—No good could have resulted from the patient's removal in this case. He would have been separated from his friends and relatives at a time, and under circumstances, that most called for their attention and sympathy, also from the opportunities of procuring the best medical advice, which it may be presumed are much more numerous in this metropolis than abroad. He recovered without removal, and was thus spared the inconvenience and peril to which a long journey would have exposed him. Liquefactions are of constant occurrence; while they are going forward, patients require all the medical skill and care they can have, to watch and control the symptoms as they arise. Travelling by land or sea, places these in most instances, beyond their reach, and when located in the place of their destination they run the serious risk of falling into the hands of unskilful practitioners, who too frequently, by the administration of improper medicines,—as for instance,

mercury—cut short the work of decay. These considerations are serious drawbacks to the hypothetical benefits of warm climates. Some of our high medical authorities, however, still sanction this practice by recommending migration to many of their patients. When benefit appears to be derived, and the patient has returned alive, I have always been able to trace the cause to some natural protection, such as a contraction of the trachea, disease of the heart, &c., existing before they left home, or to pulmonary expansion, brought about by accidental catarrh caught in the prosecution of their journey, or when the disease has been incipient, to the deeper and more energetic inspirations, which change of air and increased exercise occasion.

The beneficial effects of this regulated respiration are not confined to the pulmonary organs. I cannot point out the collateral advantages better than by quoting Dr. Ramadge's own remarks on the subject. He says in the chapter on treatment. —"It may be advisable to explain in what manner the simple process of inhalation, while it expands the pulmonary apparatus, at the same time regulates the most important of the visceral functions. The mere expansion of the lungs in the first instance, tends indirectly to remove congestion of the liver and also of the stomach, spleen, pancreas, and intestinal canal, all depending on the more free circulation of the blood in the former. The biliary as well as the great salivary secretion, is hereby promoted to a healthy activity, such morbid irritability of the mucous membrane of the stomach as may be present, productive of indigestion, is removed; the chyliferous absorption belonging to the small intestines so indispensible to life is actively carried on, and the injurious retention of excrementitious matter in the larger intestines is obviated by increased mucous moisture and accelerated peristaltic motion. It were easy, did I deem it essential to point out at length the beneficial effects produced on other secretions, and to explain the mode by which inhalation acts on the kidneys; but sufficient has been stated to enable the medical man to draw his own deductions in these particulars."

It may fall to the lot of the truly practical and indefatigable pathologist, whose text I have here quoted, to find these novel and important views of which he is the author, occasionally misunderstood, misrepresented, or neglected, but he endures such treatment in common with many distinguished individuals, who have enlarged the boundaries of science, by invading the established prejudices and erroneous doctrines of the age. It may also be a source of consolation to him to reflect, as Sir David Brewster felicitously observes, that he who contends for truths which he has himself been permitted to discover, may well sustain the conflict in which presumption and error are destined to fall. The present age may not be a tribunal either sufficiently pure or enlightened to decide the issue, but he can appeal to posterity, and rest with confidence in its sure decree.

DISCIPULUS.

Spontaneous expulsion of Uterine Polypus. M. Marchal relates the following case:—A lady, 48 years of age, the mother of several children, had for three years laboured under uterine hæmorrhage, pains in the loins, a sensation of weight in the pelvis, &c. She was treated as for inflammatory congestion of the uterus. One day, when preparing herself for a bath, she felt, while stooping, something become detached and escape through the genital organs. This object, which was a polypus, presented some resemblance to the heart of a fowl, only it was somewhat more flattened. It consisted of a *body* and a *pedicle*; the latter being smooth on one side, but torn on the other, evidently from the violence of its expulsion. On making a vertical section of this body, no doubt could be entertained of its being formed entirely by the uterine tissue, being a true prolongation of that organ.

CASE OF THE LATE MR. R. CARLILE.

BY DR. THOMAS WILLIAMS OF ST. THOMAS'S HOSPITAL.

(For the 'Medical Times.')

Apart from the intrinsic interest which attaches in a medical sense to the facts determined by the opportunities afforded at his own desire of examining his body after death, the case of the late Mr. Carlile has excited sufficient public curiosity to render proper the step of presenting his friends and the public with a succinct and authentic statement of the particulars as determined by the inspection of his body, which it was my duty to conduct. Nor would the history of his life be complete without an open acknowledgment, on the part of those really desirous to extend, by every legitimate means, the practical usefulness of medical science, of the substantial benefit which a public example like his, is calculated to confer. His anxious, and repeatedly avowed wishes were, that every use should be made of his remains in elucidation and furtherance of science, and in contribution to the availableness and certainties of those resources which medical science can now command, to mitigate, where it fails completely to dispossess of its sting, the severity of human suffering. It would certainly be but a partial execution of these wishes, if the obligation and benefit which the bequest of Mr. Carlile is so eminently fitted to produce, alike to the public and the profession, were circumscribed and forgotten within the walls of the limited abode to which his body has been consigned. It is neither my desire nor my province to appear as the eulogist of his peculiar sentiments on the subjects of science and religion. My desire is to facilitate the execution of wishes which dictated a magnanimous, though eccentric, bequest.

I have endeavoured with as much accuracy as possible, to collect from the most authentic and trust-worthy sources, all the facts relating to his latter history. But as the post-mortem examination was made and recorded in detail on the register of the hospital, without any information of a certain character in reference to the nature of his illness, its results may be received as quite uninfluenced by the bias with which a previous knowledge of the case sometimes affects and regulates the interpretation which appearances after death may appear to warrant.

In general formation, the body was distinguished by all the marks of robustness and strength; the chest was broad and well developed. The features and contour of the face were quite symmetrical. In figure, the head, if viewed in profile, approximated, although not closely, to the form which is characteristic of the crania of the American variety of mankind. The anterior segment gradually receded, the plane of this uniform recession terminating in an elevated vertex or summit which occupied a position posterior to a line drawn transversely over the head, from one parietal prominence to the other. In this particular, with respect to the configuration of the head, different families of the human race, and equally as obvious, individuals of the same nation and same family present very numerous varieties. The vertex or summit of the cranial arch offers as many variations in size as in position. In the Hindoo, the highest point is placed directly over the parietal prominences. This circumstance of the plane of the forehead being uniform, while it gives the character of gradual inclination backwards, leaves capacious room for the development of the anterior segment of the brain.

In the North American Indian, the vertex —I use this to denote the apex of the cranial bone wherever placed—is quite over the occipital region; the frontal recession more rapid, the facial angle consequently more acute. In the Peruvian, it coincides with the middle point of the coronal suture. In the Patagonian, it is placed considerably anterior to this suture. In these two instances, the forehead acquires the character of great elevation and expanse. In the crania of the Greeks and the Egyptians, a vertical bias is observed in the lower part of the forehead, from which the line coinciding with the summit proceeds with semicircular uniformity, as far as the point of the occipital prominence This figure always produces the idea of high intellectual development. The prognathous formation of the Ethiopian skull leaves necessarily the vertex at a considerably posterior situation. The position of the vertex has always appeared to me to influence considerably the intellectuality of the *expression* which belongs to the head. Varieties equally marked in the form of the head are constantly observed in individuals without any demonstrable co-existence of variations in the endowments of the mind. While in mere *configuration*, therefore, the head of Mr. Carlile did not attain the standard of perfection which modern taste has assigned for the determination of the highest mental excellence, it may be proved by example, that the form of his head was compatible with the possession of great intellectual powers. While, however, the facial angle was somewhat below the average of European standard, the line carried from one temporal ridge to the opposite, exceeded in length, that which common observation recognises as the average. In volume, therefore, the forehead gained, transversely, the development which it failed to attain vertically. Imagining a line dividing vertically and transversely the cranium, the posterior presented a greater comparative volume than the anterior segment. The circular admeasurement of the head, as formed by a line carried horizontally over the superciliary ridges, and bounding the occiput at the level of the tuberosity, gave 23¼ inches. The vertical, as obtained by a line carried from the tragus of one ear to that of the opposite, afforded 13¼ inches. The former somewhat exceeded the mean admeasurement of the European head, while the latter was not more than equal to the standard. Some of these facts were furnished me by my friend, Mr. Dixon. The countenance acquired breadth and squareness from the prominence of the cheek. The general expression of the countenance conveyed strikingly the idea of resolution and firmness; but withal the expression was placid.

The brain, including the cerebellum, pons varolii, and a portion of the medulla, amounted in weight to 3lbs. 6℥ 2ʒ.—The cerebellum separated from the pons varolii weighed 5℥. 5ʒ. — In proportional value, these weights are in the ratio of 1 to 9½.

This proves a somewhat greater relative development of cerebrum than ordinary; the average, I believe, is as one to about eight in the weight of the cerebrum and cerebellum. The membranes of the brain were healthy: the grey matter, or hemispherical ganglion was healthy in structure and colour; but in the opinion of Mr. Solly, the grey matter did not exceed the average depth. No other morbid condition could be found in the brain than that of a minute apoplectic cavity in the substance of the *tuber annulare*. This was situated on the right of the median line, and superior and posterior to the transverse median plane of the pons. It contained a small quantity of reddish

pus-like substance, appearing like disintegrated cerebral matter. The capacity of this little cell did not exceed the dimensions of a small pea. The structure immediately adjacent indicated only slight marks of softening. The existence of an adventitious membrane or cyst to this cavity, could not be decidedly proved. It is the most probable supposition in regard to its formation, that it was produced by a small apoplectic clot, subsequently disappearing under the agency of absorption, more or less augmented, in proportion, by the softening and disintegration of the adjacent structure.

From the situation of the cavity with reference to the columns traversing the pons, it was obvious that the continuity of the posterior pyramid or sentient portion of the crus cerebri of the right side, was chiefly broken down. Since the cavity existed on the right of the median plane of the pons, and above the decussation of the columns, the paralysis must have affected the left side of the body, and probably, sensation, to a greater extent than motion. The aorta, with the roots of the large vessels attached, weighed 13½ oz. The normal weight of the organ in the adult is given by physiologists at about 9 oz. In general volume, also, the heart had augmented. The cavities of the two ventricles had somewhat enlarged, the left more obviously than the right. The ventricular parietes on the left side were slightly hypertrophied. The mitral and tricuspid valves were quite healthy: the aorta likewise, with the exception of a little deposit, and thickening around the attached borders of one of the curtains. A slight dilatation appeared in the ascending portion of the aortic arch; frequent atheromatous patches were observed underneath the lining membrane. Here, deposits were found also in the coats of the iliac vessels. The heart was covered with a considerable quantity of fat, a circumstance which should not be overlooked in estimating its augmented weight and volume, as evidences of a pathological state.

No satisfactory evidences of disease could be detected in the lungs: the right was universally adherent to the costal pleura: the adhesions were obviously of old formation. The base of the lungs was attached in the same way to the diaphragm. The parenchyma of the lungs, immediately subjacent to the pleura, presented no decided proofs of having been involved in the neighbouring inflammation. The lining membrane of the bronchial tubes on this side, was congested to a slight degree: a little dilatation of the smaller channels likewise, in some places, in others, thickenings of the lining membrane were observed. The smaller divisions of the bronchi contained the product of bronchitis: this, however, was small in quantity. No proofs could be discovered of the existence of pneumonic consolidation, although it was reported that he died of inflammation of the lungs. Notwithstanding the congested state, it was very different from that form of congestion which belongs to the first stage of pneumonia. Some impediment was offered to the escape of air from the air vessels, for the collapse of the lung was less complete than that which is observed to occur under the conditions of health. On the left side no pleural adhesions existed. In structure this lung was healthy; but the bronchial tubes presented nearly the same appearance as those on the right. All the organs of the abdomen were found in a perfectly healthy state. As formerly stated, the facts thus determined by the examination of the body, at a period of four days after death, were recorded without any previous knowledge of the case. It will be now seen what correspondence there is between the condition which the inspection of the body has enabled us to discover, and the signs by which those conditions were rendered manifest in the living state. I can hold myself responsible for the correctness of the following facts, in relation to the history of his health for the last eight or nine years. Care has been taken to gather them from the most authentic sources, his own immediate friends.

For a period of nearly ten years before his death, the late Mr. Carlile laboured under a peculiar form of asthma: it was marked particularly by attacks or paroxysms of more or less extreme difficulty of breathing. During these attacks, the more prominent sensations were those of great pressure and tightness across the chest. These paroxysms did not terminate in copious expectoration, as in the humid form of asthmatic affections. His difficulty of breathing suffered almost immediate and excessive aggravation, even by a stay of a few days duration, at his residence in Fleet-street, so that for some years he was compelled to return to the country for his nightly rest. Breathing thus, for a portion only of the four-and-twenty hours, the less salubrious atmosphere of his town residence, he succeeded in alleviating, to a great extent, the continued oppression and distress of breathing which his complaint would otherwise have inevitably produced. His habits were temperate and regular: he never referred any uneasiness to the region of the heart: he was not subject to palpitation or faintings. While breathing the country air, he felt almost entirely free from all restraint of breathing. During the paroxysms which came on in the city, his exertions for breath frequently became distressing, and his countenance was thrown into the livid anxious condition which so peculiarly belongs to the paroxysm of asthmatic oppression.

In the year 1841 he became the subject of a singular attack of paralysis. One evening, after rather severe exertion in walking, he found that the power and sensibility of the left side of the body were being gradually lost, or, as he expressed it to one of his family at the time, "all the life of the left side of his body appeared to be flowing in the most strange way, to the *right*." In a short time the paralysis was complete. It is important and interesting to recollect that during the whole progress and development of the paralytic seizure, his mind stood undisturbed, a conscious witness to the approach of that mysterious and singular change, by which the extremest commands of volition, the proud mandates of the mind, were long dispossessed of the power to excite respondent agency in the formerly obedient hand. He conversed freely and as intelligently as ever with his attendants. After the lapse of some time, he recovered to a great extent, the power of voluntary motion and sensation; the loss of sensibility was more complete in the face than the remaining parts of the affected side. The return of sensation on the left side of the face was slower and less complete than in other parts. He died in one of his usual asthmatic attacks, at his house in Fleet-street. This fatal attack came on suddenly, and too rapidly to render it safe or practicable to remove him to his country residence. It is believed that if his removal to the country had been earlier and promptly made, he would have survived, with his usual impunity, the effects of his last illness. In the history of the paralysis with which the late Mr. Carlile was affected, in their physiological references, there are several points of no uninteresting character. It is a rare occurrence to discover a spontaneous extravasation into the substance of the pons varolii; and it has been stated by the most practical authorities, that death is the inevitable consequence of such extravasation. According to the statistical records of Andral, out of 392 cases of cerebral hæmorrhage, nine only of effusion into the pons varolii were found. The original attack in the case of Mr. Carlile was accompanied by no convulsions, no extinction of mental consciousness, no stertor. The question may be raised: could the physiologist have predicted the situation in the brain at which the rupture and extravasation had occurred? Are the cases of apoplectic effusion into the pons always characterised and distinguishable by an absence of stertor and coma? The converse of this is generally held to be true; but as a general fact it is certain, that under all circumstances of extravasation within the limits of the cranial cavity, whatever the situation in which it occurs, the phenomena are dependent upon, and are referable to, the pressure which the general mass of the brain sustains. The pressure may oppress almost equally any part of the organ, and may be explained and understood on the principle of hydrostatic diffusion in the case of Mr. Carlile. It may, therefore, correctly be argued, that the undisturbed presence of consciousness was due only to the minuteness of the vessel ruptured, and therefore, of the quantity of blood effused. It is quite easy to understand, from the immediate proximity of the spinal centre, in cases of effusion in the neighbourhood of the base of the brain, that under the condition of any serious and bulky extravasation, the cord will suffer, and convulsions, dysphagia, and other spinal phenomena, will strongly mark the approach of death. It is, therefore, the limited extent rather than the seat of effusion which explains the peculiarities of Mr. Carlile's case, and which enable us to account for the comparative impunity with which he survived the attack. The slight softening of structure adjacent to the cyst in this case, is calculated, likewise, to suggest some few reflections of interest. In all cases of cerebral hæmorrhage, from the closed box-like limits of the cranium, it is obvious that the pressure of a clot must operate equally in every direction, and, that, consequently, it must compress every part of the enclosed mass, with as much severity, as the portions in the immediate neighbourhood of the extravasation, and yet the disintegratory process affects only the parts in direct contact with the clot. It is, thus, that the total volume of the mass is diminished, and the aggregate brain allowed to recover its normal density. In the case of Mr. Carlile, as already remarked, the cyst, and formerly the clot, was situated in the sentient segment of the pons, in the substance of the posterior pyramid, and at the distance of about an inch and a half from the locality to which the sentient root of the trigeminus has been anatomically followed. If induction from physiological facts be allowed, it is not improbable that the slowness with which the restoration of sensation occurred in the face, comparatively with the period of its return in other parts, was dependent upon the extent to which the point of origin of the fifth nerve was involved in the pressure. In a case of this description, if the clot had extended in its bulk and influence, beyond the median line of the pons, the singular pathological experiment would have been performed, by which a complete separation would have been accomplished between the sentient apparatus of the cerebrum, and that of the cerebellum. Even under the partial isolation of the cerebellum, which happened in the case of Mr. Carlile, a competent physiologist, if confident in the accuracy of his diagnosis,—might have elicited facts of no inferior value and interest to the physician.

This case proves the fact which has been denied by the highest authority, that an apoplectic clot into the pons varolii may happen to a great extent, not only without entailing the immediate consequence of death, but without the manifestation of a single formidable sign. In conclusion, it is by no means desirable to withhold the re-

mark, that in contemplating the instructive facts which this imperfect analysis of Mr. Carlile's case has developed, it must be a source of compensating gratification to those whose feelings and affections his stern and philosophical bequest was most likely to violate and appal, to find, apart from the advantages which may occur to medical science from an example, thus magnanimously shewn, of indifference to the over-wrought delicacy of popular taste, that his own individual case should have accomplished *something*, and should have added an interesting store to the treasury of useful knowledge.

HUNTERIAN ORATION.

Delivered at the Royal College of Surgeons, Feb. 14
By J. M. ARNOTT, Esq. &c.

In the same class of medical improvers as Bell, we may also rank one whose loss was recently felt, not only in the nation where it occurred, but by all Europe which he had instructed,—Larrey.

Larrey was born in 1766; became a pupil of his uncle, who practised surgery at Toulouse, and, after seven years' professional education, was appointed surgeon in the navy. He returned to Paris at the outbreak of the revolution, and, in 1793, was sent as regimental surgeon to the army of the Rhine. If we would have a specimen of the extraordinary energy and indignant resistance with which France then stayed the attack of the first coalition, we may look to Larrey, the most zealous individual of the important class to which he belonged. He invented the *ambulances volantes*, and was the first military surgeon who, having dressed the wounded, carried them off from under the very fire of the batteries. "It is to Larrey," says one of his panegyrists, "that we owe our place of honour on the field of battle." Such zeal could not fail to win applause; and Larrey obtained special mention in the report of Genl. de Beauharnais after a battle fought before Mayence in July 1793.

At the siege of Toulon, in 1794, he gained the friendship of that Lieutenant of Artillery who was destined to shake the world! He accompanied the French army to Egypt, and served in all the subsequent campaigns of Napoleon throughout Europe. It is needless to detail the honours successively conferred upon Larrey until his social position became equal to his merits; but I may mention that, after the battle of Wagram, he was made Baron of the Empire, and that in 1812 he was made Chirurgien en Chef of the Grande Armée. He liked to be called by the title of nobility which he had earned: nor was this a childish vanity; for he knew that neither the chance of birth, nor the favour of a court, had made him a Baron; but that the dignity had been bestowed by a discriminating hand which never conferred honours upon incompetency or inefficiency.

His arduous duties did not prevent him from recording a host of facts selected from the myriads presented to his observation. Among the works with which he enriched surgical literature, some of the best are:—A Memoir on Amputation of the Extremities after Gun-shot Wounds—A Historical and Surgical Account of the Expedition of the French Army to Egypt and Syria.—Memoirs of Military Surgery: an elaborate work in four volumes.

Among the valuable principles which he established was the necessity of immediate amputation after gun-shot wounds, pointing out, with nice discrimination, in what cases the operation was indicated. The propriety of immediate amputation had been advocated at intervals for two centuries; but the large experience and strong sagacity of Larrey first raised it into a canon of military surgery.

Previously to his time, it had been a maxim of practice, when the extremities were invaded by spreading mortification, never to amputate till nature had fixed a line of demarcation between the sound and gangrenous parts. He first shewed that the rule, though general, ought not to be universal; and he drew attention to the important distinction between gangrene dependent on a constitutional cause, and that which springs from the severity of a local injury. In the latter he advised immediate amputation, without waiting for the establishment of a boundary between the dead and living parts; and the instances which he gave of the successful application of this new distinction, have been amply confirmed by the experience of others.

Fortunately for mankind, the clearest intellect is commonly accompanied by a benevolent heart, and the perspicacity of Larrey was equalled by his humanity.

Of all Napoleon's campaigns, that of 1813 was the most equally, the most severely, the most fiercely contested. It was then that Prussia, rising almost to a man, displayed a spirit at least equal to that of France in 1793; and in the combats which ensued, the effects of science and art in war were heightened by the heroic, it may be rancorous, feelings of those engaged.

After the battles of Bautzen and Wurchen, it was suggested to Napoleon that the number of the wounded had been increased by voluntary mutilation; and that all who had lost a finger, or whose hand had been pierced by a ball, were traitors who wished to escape from the service.

Napoleon ordered that the wounded of this class, to the number of 1,200, should be separated from the rest; and that a commission, consisting of several principal surgeons, should examine each of these soldiers. A council of war, moreover, was appointed to try the guilty, and cause them to be executed on the spot. Larrey had been named president of the surgical board. The day before it met, a certain personage, who, believing the accusation, desired its success, ordered him to find four culprits in each division, who should be taken before a council of war, and shot instantly. Larrey, filled with terror and indignation at such an order, was about to send in his resignation, and quit the army, when a friend made him give up the project by observing that he might be useful to these unfortunate men.

Larrey did not hesitate one moment. The examination was extremely rigorous, and lasted four whole days. Larrey shewed, by reasoning on the character of the wounds, that all the accused were innocent. He then addressed a report to Napoleon; and, believing that he had displeased the emperor in this affair, composedly awaited the disfavour which was to follow. But Napoleon was not insensible to the claims of truth and justice when clearly demonstrated and resolutely maintained. The conduct of Larrey was not lost upon him. In the middle of the ensuing night, Baron Fain brought Larrey a most flattering letter from the Emperor, in which he was congratulated on his firm, honourable, and humane conduct. This letter was accompanied by a present of 6,000 francs, and the warrant of a pension of 3,000 to be paid from Napoleon's privy purse. —In his long exile Napoleon did not forget his great surgeon: besides bequeathing him 100,000 francs, his will records the honourable fact, that Larrey was the most virtuous man he had ever known.—His own escutcheon might have been saved from its darkest blot, had he always encountered the moral fearlessness of Larrey and of Desgenettes.

But I must now approach the great object which has to-day brought us together, and endeavour briefly to describe the peculiar and more prominent points of Hunter's career.

John Hunter was born in 1728, and began the study of his profession at the age of 20. He died in 1793, leaving a reputation as a surgeon and a naturalist beyond that of any other man in the annals of fame. Some few may have been his equal, nay, his superiors, (though that is a bold word) in either department singly; for excellence in both combined, he stands without a rival.

He was snatched away too soon from the pofession which he adorned; and if we number his years alone, his death may appear premature; but if we adopt the theory of the Roman philosophical poet, and measure time by what has been performed in it, we might suppose that Hunter had lived an age. Half a century has now elapsed since his death, and few of his contemporaries are with us; the voices of envy and of partiality are alike silent in the tomb, and we are called on to estimate what Hunter attempted, intended, accomplished.

The materials for our judgment are to be found in his books, both printed and manuscript, as well as his numerous drawings. But it is most of all in his museum that we appreciate the prodigious extent of his views, bounded only, if that can be called a boundary, by the limits of animated nature.

John Hunter early shewed the characteristic features of his mind, the interest he took in physiological inquiries, his capabilities of minute anatomical investigation, and his powers as an original thinker. Within ten years of his arrival in London, he had solved the problem as to the cause and mode of the descent of the testis in the fœtus, had closely examined the connection between the uterus and placenta, had made that preparation, the oldest in the museum, where, tracing the branches of the fifth pair of nerves in the nose, he was led to the conclusion that the organs of sense receive their endowments of ordinary sensation from that nerve, and to the more general proposition, "that if we consider how various are the origins of the nerves, and how different the circumstances attending them, we must suppose a variety of uses to arise out of every peculiarity of structure;" thereby approaching more closely than any one else had done to the principle subsequently established by Sir C. Bell: and, moreover, he had instituted a very ingenious set of experiments, with the view of determining whether the veins possess the power of absorption.

When, soon after, he accompanied the army to the coast of France and the Peninsula, his duties as Staff-Surgeon did not prevent him pursuing those physiological inquiries in which he took so much delight. He was then engaged in determining, by experiment, whether digestion continues in lizards and snakes during their torpid state; and he made other experiments on the faculty of hearing in fishes, the organ of which sense he had discovered in these animals before leaving London. At this period, too, were made those observations on gun-shot wounds, with which seems to have originated that inquiry which, in its published form only, appeared 30 years afterwards. And in an incidental remark in his paper on the vesiculæ seminales, "that he took the opportunity of opening a man immediately after he had been killed by a cannon-ball, to be more certain of the nature of their contents," we perceive how strong was his physiological zeal, and how eagerly he seized every opportunity of adding to his knowledge.

There is reason to suppose that when he returned to London in 1763, the scheme of his future life and operations had been already formed. The College possesses a manuscript catalogue in his own hand writing, apparently written a few months after his return from Portugal, briefly defining the nature of about 200 specimens of natural and morbid structure, grouped together according to organs—the germ of that museum in which he sought to display all the types and modifications of animal structure.

The great object of Mr. Hunter in the formation of his museum was the illustration of life, in its natural and diseased condition, in plants as well as in animals. Physiology, in its largest sense, was the aim and scope of his labours; whether we view him investigating the properties of the seed or of the egg, where life lies sleeping; displaying every form and variety of organization; tracing its developments; observing its aberrations; dedneing the laws of life; or applying his knowledge of these laws to the explanation of the phenomena of disease, to the prolongation of the existence, or to the relief of the sufferings of his fellow-creatures.

Of the vast basis on which Mr. Hunter raised his superstructure, and of the soundness of the materials of which it is composed, his museum is the best evidence. At the period of his death, and he was adding to it with unabated zeal up to the last day of his existence, the number of preparations of natural structure alone amounted to nearly 4,000.

It is impossible to form a just conception of the beauty and value of these preparations without a detailed examination of the museum itself, and of the excellent catalogues which have now been drawn up. But you may form some idea of the industry and vast labour expended in its formation, when I state to you, on the authority of one who has had the best means of knowing, Mr. Owen, that there is proof of Hunter having dissected above 500 species of animals, exclusive of repeated dissections of different individuals of the same species, besides those of plants to a considerable amount. And of his diligence in recording the details of his observations, that at the same period he possessed original records of the dissections of 315 different species of animals.

Not contented with displaying the peculiarities of their structure, and recording them, Hunter caused most elaborate and accurate drawings to be made from recent dissections of many animals, and for this purpose retained in his family, many years, an accomplished draughtsman.

(To be continued.)

PERISCOPE OF THE WEEK.

Anchylosis.—M. Malgaigne speaking of recent anchylosis resulting from various affections of the joints, or from prolonged absolute quietude of a limb, directs especial attention to the dictum that these forms of anchylosis do not require any specific treatment, and that they will be removed in the course of time without medical assistance. This he combats very strongly, as also the advice not to attempt passive motion of a limb as long as there continues any pain in the joint. He illustrates both his positions by cases, some of which serve to demonstrate that time alone cannot cure a commencing anchylosis, but tends the rather to increase the mischief, while the others show that the forcible flexion of a limb, even while some degree of pain in the joint continues, provided all the inflammatory symptoms have been dissipated, is far from being as injurious as has been represented, but, on the contrary, has led to a cure by the rupture of the anchylosis. This forcible movement is attended with considerable pain at the time, but its beneficial effects soon become evident. M. Malgaigne does not restrict the application of passive motion to a limb labouring under commencing anchylosis from inflammation of the joint, or from a too protracted state of rest of the part affected, consequent on fracture or luxation, but equally applies it to the same diseases when subsequent to white swelling, provided always that the increase of sensibility of the part has ceased. The persistence of the swelling is not with him a sufficient reason for not having recourse to forcible extension and flexion. The following case will show that even where there is a degree of deformity of the articulation sufficient to give rise to the fear that more or less erosion of the articulating surfaces has taken place, still something may be done for the unfortunate patient. A person was brought to M. Malgaigne, who had been obliged to keep his arm in a state of perfect rest for white swelling of the shoulder. All pain had then ceased, and he could perform some slight movements of the limb, but the deltoid muscle was completely paralysed, and half the head of the humerus had been destroyed, so that none of the movements of the limb were effected properly. Notwithstanding, by steady and well regulated passive motion, gradually increased in power and extent, the patient so far recovered the nes of his limb that he can perform the most difficult gymnastic exercises.

Natural Strangulation in Birth.—Dr. Henderson, of Edinburgh, publishes a case where a healthy woman of 30, gave birth to a full-grown child, after a labour of fourteen hours, accompanied with circumstances of extreme interest in a medico legal point of view. The pains were neither frequent nor severe; the os uteri was thick and dilated slowly. Latterly, the head becoming impacted in the outlet of the pelvis (which was rather narrow anteriorly), required to be relieved with the forceps. When the head was born, the child breathed twice, and cried once distinctly, though feebly; during the next three or four pains no progress was gained although forcible traction was made; indeed, each pain, instead of forthering the labour, rather drew back the head, the face becoming rapidly black and tumid. On inserting the finger, the thickened os uteri was found grasping the throat tightly as a ligature, and arresting the flow of blood in the jugular veins. A few more pains served to extricate the child, which was quite dead, strangled by the spasmodic contraction of the os uteri around the neck, after the birth of the head. There were two distinct black rings, one at the top, the other at the root, of the neck, corresponding exactly with the parts which the os uteri had successively grasped and rested on. The right shoulder, from the apex to the lower ring on the neck, was ecchymosed. The left shoulder was nearly in a similar condition, showing the strong spasmodic contraction of the mouth of the womb, and the force necessary to overcome it.

Cinchovatine.—M. Manzini obtains a new alkaloid from the cinchona ovata, which he calls cinchovatine, by the process adopted for the preparation of quina. Cinchovatine, is found in very long prismatic crystals of a beautiful white color; it is inodorous, and possesses a bitter taste, which is slowly developed. It is scarcely soluble in water, but very readily so in hot alcohol and æther. The salts which it forms with acids are soluble and crystallisable; their solution is precipitated by tannic acid, the iodnret of potassium, the bichloruret of platina, the dento chloruret of gold, and some metallic chlorurets. Heated to 400 deg., it melts into a brownish liquid, which solidifies like a resin on cooling. The formula of its composition is expressed by C_{46}, H_{31}, A_{21}, O^8, or carbon 69.80; hydrogen, 6.83; nitrogen, 7.19; oxygen, 16.21.

ROYAL COLLEGE OF SURGEONS, LONDON.

List of Gentlemen admitted Members on Friday, Feb. 10, 1843:—

D. Morgan, A. L. T. Cooke, T. Graham, S. P. Goddard, W. K. Park, G. F. Fox, H. Payne, J. C. Bonnett, J. S. Woollett, R. Chambers.

Admitted Friday, Feb. 17.

W Thom, S. H. Steele, R. Brown, T. D. Martin, J. C. Sproston, H. Gavin, A. C. Ayres, R. Nugent, G. Allen, C. H. Duck, W. J. Bryant, 7. Growse.

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SUMMARY.

ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR, TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. SERRES, Member of the Institute of the Academy of Medicine, Professor at the Museum of Natural History, Paris, &c. &c. &c.

SUMMARY.—*Double state presented by organs in the course of their formation—Principle of determination in comparative anatomy—Determination of organisms by form, by function—Insufficiency of these two principles in the determination of the organs of the life of relation—New direction given to this study by Geoffroy Saint Hilaire—Principle of connections and of balancement in organisms.*

We thus see that in the course of their formation, the organs present two different states; that which corresponds to their transitory forms, and that at which they are definitively arrested, and which constitutes their normal state in different classes. The transitory forms of an organ are so much more numerous, and its changes of form so much more multiplied as its composition is more complex, a form of greater complication being always preceded by one of greater simplicity, wherein the various parts of the same organ become alternately balanced in their dimensions, until arrested at their definitive composition. In the system of organic pre-existences, the primitive form was presumed invariable; an organ was of necessity at its origin that which it was bound to remain: the heart, the brain, the stomach of a mammiferous animal, of a bird, a reptile, or of man himself, appeared at first sight to possess the same complication as in the adult being. Hence was there no attempt at establishing a resemblance between these organs, no analogy beyond the analogies and differences presented by adult animals. Now, as in the adult state the analogies are effaced, while the differences become more striking than at any other period of existence, it resulted that the organic differences became the object of the researches of anatomists, and, so to speak, the principal rule of comparative anatomy. But in proportion as researches multiplied, these organic differences diminished; those unperceived analogies presented by the organs in the course of their metamorphoses from family to family, or from class to class, became more and more developed, till finally that mass of organic analogies was accumulated of which the anatomy of adult beings had not even induced a suspicion. Organs, which in the animal of full development appeared exceedingly complicated, were found to be progressively simplified, in proportion as they were traced towards their original conformation in the young fœtus. This first observation was followed by a second still more important. Comparative anatomy had already unfolded the gradual decomposition of organs in the series of organised beings; the heart, so complicated in man, the mammifera and birds, was found in reptiles and fishes, to constitute a simple contractile sac, in which the venous and arterial circulations terminated; in the mollusca the place of this organ was seen to be supplied by a simple swelling of the canal containing the blood, while in insects, a single vessel (the dorsal) was found assimilated to this organ. The difference between this dorsal vessel, the sac of the mollusca, and the complicated heart of the mammifera and man, was so great and remarkable, that the only common point between them was that of *function*, or *use*, namely, to accelerate the movements of the venous and arterial liquid; thus was function the only character which could then lead anatomists to confound under the same denomination, organs so different in their structure, in their form, and sometimes even in their position, as in the mollusca and in insects. Finally, by considering this organ in a general manner throughout all beings, its anatomy was found to become more complex from the inferior to the superior animals, until arrived at the highest degree of its composition. Now, by tracing it towards its early conditions, transcendental anatomy has shown that the self-same organ, however complicated it may be in its permanent forms, repeats in its transitory conditions the organic simplicity of the inferior classes. Thus the heart in birds is primitively a canal, then a sac or simple cavity, and lastly the complex organ of this class. Comparative anatomy is thus repeated and reproduced by embryogeny; and embryogeny, hitherto neglected because it presented to the mind but sterile result, now offered a degree of interest in pursuit, which threatened to exhaust all the energies of those who had the courage and patience to give themselves up to these difficult and minute researches.

If it be true that the organs of the embryos of the superior classes repeat and reproduce the permanent organic states of the inferior [illegible] becomes doubly useful [illegible] and why this embryogeny having been neglected, and why this neglect had not extended itself to comparative anatomy. We may in this place consider the principles according to which comparative anatomy made its first advances. On the one hand the anatomy of the adult man being the only known species, the only one which could serve for the purpose of comparison, and the organic dissimilitudes of animals reproducing themselves from class to class, these latter were of necessity in the first place pointed out and seized upon; they constituted as it were the prominent points of comparative anatomy. Thus the kidney of man is single on either side; that of many mammifera, of birds and reptiles, is multiple. Comparative anatomy pointed out this unity on the one hand and this state of multiplicity on the other, without considering whether there was not a period in the life of man when this organ resembled that of these animals. It ascertained the facts, but did not explain them.

But the differences became multiplied to such a point; the forms, in consequence of their great variety, became so widely separated from those which served as their type, that, without some other rallying point, anatomy would infallibly have lost the thread which directed it. This new guide was *function*. By this aid the apparatus, by means of which an individual function is executed, were traced and compared one with another, so that organs, apparently the most heterogeneous, were thus reduced to their organic analogy. The liver, for instance, differs so greatly in the monkey tribe (some excepted), the mammifera and man, that for a long time this difference was made a point of objection against the doctrine of Galen, and his disciples. In birds, a class so remarkable for the fixity of their organisation, the liver (single in the mammifera) is double, of a symmetrical form, and placed upon either side of the intestinal canal; in reptiles and fishes it resembles more that of the mammifera, notwithstanding its infinite variations in this latter class. Still it was impossible not to perceive the organic analogy, whether on account of the connection of the liver with the digestive canal, or inasmuch as the determination was merely based upon the organ *en masse*. But true difficulties presented themselves in the invertebrata; and assuredly if form alone, or even form aided by the relations of position, had been the only guide to determination, no analogy could ever have been discovered between the secretory apparatus of the bile in the hepatic cœca of the crustacea, and in the thin and spongy vessels of insects; the yellow colour of the former, as also, most frequently, of the latter, and the constantly bitter taste of the liquids which they contain, have alone established the relation of these parts with the biliary organs of the upper classes. Function, in this case, takes the place of form. The same may be said of respiration, which is sometimes performed by means of lungs, sometimes by branchiæ or gills, and at others by tracheæ. So also with respect to the heart and the vessels, which have in many cases been recognised by the presence of the blood alone.

Results so striking restored to function all its former importance: unity of function, diversity of organs to produce it, such was the base of anatomical determinations. Although this method was followed with such great success in the comparison of the apparatus of the life of nutrition, it was far different with respect to those of the life of relation. Here, in fact, all the elements of incertitude and the chances of failure were combined to render research unsuccessful. Sometimes the function being completely unknown, this rule of determination could no longer be applied; at other times the function was known or presumed, but the organic [illegible] were so totally changed, the elements [illegible] completely disassociated [illegible] that the form rather led astray than directed in the pursuit. Thus function and form, whether considered apart or united, which in their application to the apparatus of organic life had been so fertile in results, threw but a doubtful or unsteady light upon the apparatus of relation.

The prejudices of paganism interdicting the dissection of the human body, the anatomy of man was primitively deduced entirely from that of animals. But in the sixteenth century, science taking an entirely opposite direction, the dissection of man became pursued, and the anatomy of animals was in its turn deduced from that of man. Consequently, anatomists sought at first those resemblances in the brains of animals, which were perfectly known to them in that of man. These resemblances were soon found in the mammifera, for in them the brain is, in great proportion, a repetition of itself in the various families of which this class is composed. In them it was found similar to what it is in man, and received the same denominations. But in birds this resemblance no longer existed. The cerebellum posteriorly, and the cerebral lobes in front were recognised without difficulty; but in the middle part a pair of new lobes was discovered, which had no analogy either in man or the mammifera. Thus were mistaken ideas engendered and extended even to the surrounding parts: the whole middle region of the brain in this class appeared new, and as science possessed no fixed terms of relation, a wide field of conjecture was opened to anatomists. The chain of resemblances appeared from that point broken; and on coming to the class of fishes, it seemed impossible to renew it by reason of the many circumstances which we will now explain.

The consideration of form, which had so successfully guided anatomists in the study of the mammifera, which had also enabled them to recognise the cerebral lobes and the hemispheres in birds, lost all application in fishes. Nothing could be found, at first view, which bore a resemblance in this class either with the brain of the mam-

mifera or of birds. This organ is composed, in fishes, of a double series of bulbs ranged in lines from before backwards, and varying in number from two to four or six. Which of these pairs should be named cerebral hemispheres? The anterior, the middle, or the posterior? To what part of the upper classes are the other lobes to be compared? On what bases are their analogies or differences to be grounded? No fixed data are ascertained on these points. All is individual opinion and conjecture. The same lobes have received different names, and have been by turns compared to parts altogether dissimilar. The cerebellum itself, which it is so difficult to mistake in the other classes, was also, in fishes, a subject of incertitude. Sometimes this organ is single, as in the bony class of fishes; at other times, as in some cartilaginous fish, it is a double organ composed of symmetrical layers rolled up together and placed along the parietes of the fourth ventricle. In a very great number, an especial body is found detached from the posterior lobes, rendering the organ still more complex. This body, which sometimes resembles the uvula in man, and at other times the epiglottis, is placed, like a cover, over the fourth ventricle. Most frequently, it is simple; at other times, as in the skate, it is double. How, in the midst of all these transformations, are we to recognise the cerebellum?

The base of the brain in fishes is scarcely less variable than its upper surface. What is especially deserving of notice at the under surface, is the appearance of two rounded tubercles, which, in their situation and form, bear some resemblance to the mammillary eminences in man: this analogy has been pointed out by various writers, who have not failed to express their astonishment, that these mammillary eminences, which are the most elevated character of animality, should be found in fishes, which appear so low in the animal scale! These eminences, which exist only in man, which have disappeared in the monkey tribe, in the mammifera, and in birds, are suddenly reproduced in fishes; an evident proof that their brain belongs to a very elevated degree of organization. Consequently, their posterior lobes have been assimilated to the cerebral hemispheres. In these lobes are found the optic thalamus, the corpus striatum, the pes hippocampi, the fornix and the corpus callosum. Considering, therefore, that some of these organs have disappeared in birds and reptiles, the pre-eminence of fishes over these two classes was considered to be established.

I ask, then, how, with conclusions so opposed to the anatomical and zoological relations of vertebrated animals, could the comparative anatomy of the brain be rightly appreciated? The confusion resulting from all these false relations and dissimilitudes was still further increased by the extreme variation of the brain in fishes. In the mammifera all the parts of the brain are almost a repetition the one of the other. In birds, this organ is more fixed than in the mammifera. Reptiles present some differences; but these differences, altogether unimportant, produce no alteration in the fundamental characters of the organ. The converse of this, however, takes place in fishes: the elements of the brain are with them in a perpetual oscillation. In the first place, the brain of cartilaginous fishes is not the same as that of the bony fishes. The general forms being so changed from one series to another, that the principal parts, such as the cerebrum and cerebellum, become quite incapable of recognition. In the second place, this organ varies not only from one family to another, but it presents the greatest differences in the various genera and even in neighbouring species. It was thus impossible that science, without some powerful guiding principle, could progress upon so difficult and uncertain a foundation.

Such had been the results obtained by the principle of form unguided by function in the determination of the various parts of the brain in vertebrated animals. The spinal marrow could, however, not be mistaken. Encased in a canal formed by the contiguity of the vertebræ, its determination was derived from its position, in the same way that the determination of the brain, *en masse*, was derived from its enclosure within the osseous or cartilaginous box of the cranium. The containing body served, so to speak, to distinguish the contained. But this containing medium suddenly disappearing in the invertebrata, the central nervous system became, as it were, abandoned to itself. Thus, some referred to the great sympathetic, the whole nervous system of the invertebrata, forgetting that, from the time of Rufus of Ephesus and Galen, this nerve has unanimously been devoted to the nutritive functions alone.—Others (and this is still the opinion of many anatomists) not being able to explain the invertebrata from the structure of the vertebrata, have followed a totally opposite course. They considered the double chain of ganglia in the articulata as analogous to the spinal marrow of the vertebrata, which they supposed to be similarly enlarged at each vertebral segment. But direct observation soon destroyed this hypothesis, and left all in doubt. On comparing this state of uncertainty in reference to the fundamental system of the apparatus of relation with the so succesful exposition of the apparatus of nutrition, one cannot help enquiring why the laws, which were so successful in their application on the one side, should prove so inefficacious on the other. The cause must be that the method which is applicable to the one, is unsuited to the other order of apparatus.

Having now shown the imperfection of these laws in reference to an entire system of the organization,—the nervous system, I shall proceed to demonstrate their inefficacy in some circumscribed apparatus as those of the senses, choosing smell and taste, which are intermediate to the functions of nutrition and relation, and the hearing, which belongs exclusively to the relative functions. In the example which we have been considering, the obscurity of the function might cause the analogy of its instruments to be overlooked. The pieces of bone, however, composing the cranium and face, will furnish us with new proofs. Their purpose is evidently, in all classes, to protect the brain and afford a covering to the organs of sense. The anatomy of the adult man had shown that the cranium is composed of eight principal bones. In like manner it had demonstrated that fourteen bones enter into the composition of the face, excluding, of course, the teeth from this enumeration. Altogether, the human head is composed of thirty-four bones. Each of these bones has a particular name; each forms a distinct osseous species. Comparative anatomy sought to discover these different bones in the series of vertebrata, and to point out their analogies and differences in the mammifera, in birds, in reptiles, and fishes. In the mammifera, the bones of the cranium and face are reproduced with such slight modifications that the analogy was easily recognised. Thus the double parietal bone of man becomes simple in many mammifera; the inferior maxilla, single in man, is constantly divided into two in the animals of this class. Again, the varieties in form of the ethmoid, sphenoid, and temporal bones, leave no doubt as to their true signification. In this class we find the bones of the head, as well as the various parts of the brain; the proportions are changed without fundamentally perverting the forms. In birds, however, it is different. In them we find forms entirely unusual in the mammifera; the bones of the face become decomposed and re-united to such a point, that the individuality of the osseous species of the mammifera becomes very often doubtful. It is thus with the bones of the head as with the parts of the brain; the chain of analogies is broken in fishes and birds. We must, moreover, remark that the bones, in immediate relation with the brain, undergo the least variation. The differences are especially manifested in the bones enclosing the organs of sense and forming the frame-work of the face. This is, to a certain point, explained by the comparative anatomy of the brain. The brain in man being very extended, the bones corresponding to it are generally very large. In animals the cerebral mass gradually diminishing, these bones are contracted upon it, undergoing different modifications. But, in proportion as the brain contracts, the organs of sense gain in extent that which the brain loses. Hence, the variations and divisions of the bones constituting them.—Thus, in birds, the frontal bones are prolonged forwards to form the roof of the orbits. The most variable portion of the sphenoid bone, is that of the pterygoid processes, corresponding to the palate; that of the ethmoid is the lower or nasal plate, entirely devoted to the organ of smell. The more the sense is extended, the further do we find the bones constituting it removed from the centre, dividing and becoming so altered as not to be recognizable, even when subjected to the same use, as with the superior and inferior maxillary bones in the crocodile and the vomer in fishes.

Thus organic form had commenced to direct anatomists; but form becoming decomposed *ad infinitum*, these metamorphoses were successfully explained by function, in the apparatus of the life of nutrition. The function, however, being unknown in some apparatus of the life of relation, the form could no longer be reduced to its type. At other times, the use being known, the parts were so altered in form, so multiplied, that it became impossible to combine these various portions together. Lastly, and this it is especially which increased the difficulty, the apparatus changing in function, their forms becoming completely altered, so as to accommodate themselves to their new uses, the usual laws of anatomy lost all application: the inquirer was, in spite of himself, dragged into a labyrinth, and wandered, he knew not whither. It has been remarked, that he who strikes out new *routes* in science has almost always immense difficulties to overcome. Geoffrey Saint-Hilaire gives us a striking exemplification of this truth. Endeavouring to trace the analogy between the osseous head of the fish and the skull of the human adult, he perceived that the latter furnished a smaller number of bones than the former. Rejecting ancient notions, he then conceived the idea of seeking the *analogues* of these absent bones in the osseous *nuclei* corresponding to the bones of the head in the human embryo. He thus entered on a wide career, the first steps of which were crowned with the most brilliant success. The bony head of the fish, reduced to the natural type of its relations, opened a new path to the solution of a multitude of questions hitherto deemed incapable of explanation. But the variety of observations to be made, and the precautions which were necessary to be taken to avoid falling into error, alarmed the fears of anatomists; especially when viewing the animal kingdom, which Geoffroy St.-Hilaire described, in its *ensemble*, as a mere organic unity, diversified in a thousand ways by the variety of life in each grand division of beings. But the analogy of organic composition once proclaimed, it remained only to justify it by facts, the discovery of which, however, required guides of a certain and convincing character. From the necessity thus engendered sprung those two general principles in this branch of science:—1st. The principle of connections:—2d. The principle of *balancement* in organic masses; principles of which we shall find such frequent and striking applications. I shall in the next lecture commence with the consideration of the cerebro-spinal nervous system.

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

By C. J. B. WILLIAMS, M.D., F.R.S., Professor of the Practice of Medicine and of Clinical Medicine, in University College.

GENTLEMEN,—At the conclusion of the last lecture, I was mentioning a view taken of the manner in which the sounds of the voice are transmitted to the chest, by Dr Schornel of Vienna; and it may be necessary to refute this, because it may lead to a good many more. He considers that they are owing to the principle of consonance, or the production of a sound in the tubes in the interior of the chest harmoniously with the sound produced in the larynx. In this consonance there must be a certain given and fixed relation between the sides of the cavity and the vibrations of the body; this may be illustrated by the experiment of the tuning fork, which, when sounded, communicates its vibrations to different objects, and may be transmitted to the air. If you bring it over a hollow, like that of a bottle, you have a

little vibration; the sound or note of the tuning fork is the same as that of the bottle. This is what Dr. Schornel calls consonance, and through this experiment the phenomena of consonance may be fully developed. But for this consonnance there must be a relation between the sound and the size of the cavity, without which it cannot be produced. This may be shown by applying the tuning fork to the mouth of the patient, though it is difficult to fix it there. There is no such consonance between the size of the tube and the sounds produced in the voice. You hear that consonance in pectoriloquy and bronchophony, and in all cases the sound is very feeble; but it has nothing to do with the existence of any peculiar phenomena that become signs of disease.

I have pointed out to you that this very principle does obtain, to cause some sounds to be louder than others, and I have distinctly expressed this in one of the earliest editions of my work on auscultation; that the reason why some notes are louder than others, and why some notes are heard and others are not, is that there is a sort of acoustic relation between the tubes producing the sound; that where there is a difficulty in the transmission of the voice, then certain notes may be transmitted, and some will not be transmitted. Those most likely to be transmitted are those that correspond with the vibrating cavities of the tube itself. All that is new in attempting to give an explanation of this phenomenon seems to be erroneous, and what is true is that which I have already stated, that the phenomena are nothing more than modified sounds transmitted or produced by a diseased state of the tubes: transmitted in the same way as in respiration, with this difference, that the sound of the voice communicates with the trachea, and that all the large tubes vibrate in unison with it; that unison being in all the notes, and not in any particular set of notes. In the same way you have a perfect and full vibration in a room where the voice is said to fill the room. It is very difficult for the voice to be transmitted in the faint form of the speaking tone which is just audible across the room, but you know some voices fill the room completely, so that the whole mass of the air is thrown thoroughly into vibration. So in the resonance, or vibration in the tubes; some strong murmur of whatever key is very easily transmitted, if there is no obstruction in the tubes, no pulmonary tissue intervening,—and then you get a steadfast amount of bronchophony, or pectoriloquy, or whatever the sound is. On the other hand, if any obstacle occur and the voice is modified, a part only is transmitted: the squeaking notes will pass through, but the deeper tones will not pass through. This may be in consequence of this law of harmony, which causes some sounds to go through because the capacity of certain tubes corresponds with the tone of the voice, and others do not.

Now I will explain the manner in which the phenomena are produced. Bronchophony is the sound of the voice in a greater number of tubes transmitted to the surface by the superficial and vesicular parts of the lungs, being condensed either by consolidation, as in the case of hepatization, or compression of the external layer of the lung. Ægophony, another variety of sound, is produced in cases where there is liquid, and where the pressure is great, so as to injure the transmission of the voice. This is not so deep a sound as bronchophony. Not only in the variety of sound are some tones of the voice transmitted and others not, but the sounds which are heard have that peculiar character which led Laennec to call it ægophony, or like the bleating of a goat. Another characteristic of this sound is, that it is as it were distant, like a silvery echo; this is not only owing to the interposition of the liquid, causing a difficulty in the passage of the voice, but also it may be owing to the flatness of the tubes. Pectoriloquy again, corresponds with cavernous breathing; here the voice communicates with a cavity in the lung, and the voice becomes transmitted into the cavity, and takes the form of that peculiar apparatus. Here you have not only the voice but the division of the voice into words; you hear the articulate voice,—this Laennec called pectoriloquy.

With regard to bronchophony, and in some degree, to, bronchial respiration, you must remember another circumstance that leads to increased sound of the voice; not only, that the sound is transmitted with greater power, but that it is not muffled or destroyed, as it is naturally in the spongy tissue of the lung, which is calculated not only to cut off the communication between the interior and the external parts, but to destroy and muffle the vibration. When the trachea is consolidated and hard, the cause of obstruction ceases, and there is a hard resistent body which increases the vibrations. This is what Dr. Schornel has confounded with consonance. It is the substitution of a good conductor and reflector for a bad conductor and reflector; this is the reason why the sound is so extremely loud that the patient is sensible of it himself, and it can be felt by the hand in soms degree. On the other hand, where the voice is transmitted by a liquid interposed, although the liquid does allow some vibrations to pass through, it is in a slender way. But remember what I have said before, that the sounds of the voice may be cut off altogether by the contents or condition of the tubes; if they are much narrowed by solid effusion, as in the case of hepatization or tuberculous disease, by a great deal of mucus in them, this liquid will prevent the transmission of the voice from the treachea to the larynx, and to the tubes; and under these circumstances you will not have that peculiar phenomenon, although you may have the conditions capable of producing it in the lung. This is one reason why you do not have that peculiar phenomenon so constantly developed as you may be led to expect from the consolidation of the lung. Sometimes it may be absent, sometimes temporary, and sometimes permanent; or sometimes from the tubes being impervious to the fluid, you have bronchial respiration, and after all bronchophony. The reason is this: the air will pass through the orifice, though the vibrations of the voice will not pass through. The other kind, metallic tinkling, I will not enter into in detail; but I merely advert to it as a phenomenon that may accompany the voice; not only the voice but the cough.

Now a few words on the subject of the absence of *pectoral fremitus*. I mention it because it has been called in question whether it is a valuable sign or not. I have mentioned to you that there is a natural fremitus perceptible in the chest, in healthy persons even. Now in cases of bronchophony this is very much increased in degree; on the other hand, in ægophony, where this sound is transmitted through considerable layers of liquid, the pectoral fremitus is altogether stopped. These are the rules that obtain constantly with these conditions; but sometimes, where there is a great deal of liquid effusion, there is a great deal of resonance of the voice; for this reason—that the lung, instead of being pushed away, is pushed into close contact with the chest. On the other hand, although there may be consolidation of the cavities to produce bronchophony, you do not always have the vibrations transmitted to the exterior, because there may be liquid in the tubes and various other circumstances preventing the free transmission of the voice.

Now a few words as to the mode of listening to these phenomena. Sounds are produced by or may proceed from various causes; but the sounds of the voice mainly depend on air, which transmits sound better than solids. The interior of the chest transmits sounds by air alone, but it is a different thing when the air becomes mixed up with membrane, and where there is a succession of the vesicular texture of the lung, whsre the sound has to pass successively through a great number of different media. Sounds produced in the air are best transmitted by air: hence the sound of the voice is freely transmitted in the direction of the voice; and whenever the air communicates freely with it, the voice is heard. So likewise in disease; the shrill sounds are best transmitted to the air, through air; but inasmuch as they are confined within a solid body, they are not easily transmitted through the open air; and inasmuch as the open air is an imperfect conductor, where you can get the air confined in a tube, you get it into a condition capable of transmitting vibrations very freely. This is the principle upon which the stethoscope was constructed by Laennec.

But some sounds are produced by vibrations of solids, as in the sounds of the bronchi, where the vibrations are such as may be felt outside by the finger. Then, again, as to the conditions of solids best calculated to transmit these vibrations. Sound is motion, and motion has a certain degree of strength in it. Those motions that are less strong are less easily propagated, and with more difficulty transmitted from one body to another; and those vibrations that are strong will pass through almost any medium. Suppose, for instance, there was a partition in this room, my ordinary voice would not be easily transmitted beyond it to the other compartment; but, if I exerted my voice very strongly, it would pass through the partition with facility. So with the chest. A greater number of stronger sounds pass through any medium, by air or solids, or sometimes without any intermediate agent; such as the sounds of the larger bronchi—the large and coarse bronchi—and the sounds of the heart; some are heard without a medium, or any close contact. But the more delicate sounds become the test of a good conductor, and it is where these delicate and slight sounds are put forth, that it becomes necessary to construct instruments more adapted to transmit the vibrations, and in some degree to exaggerate them.

Now, there are circumstances which improve air, and render it a complete conducting medium of the sounds produced in it; they are means of enclosing it, so that an impulse transmitted to one part is easily transmitted to another. Sound is, as I said before, merely motion; it is not something hidden. When you apply your hand with force to the end of an open tube, you can force out air with sufficient strength to blow out a candle—so, in the same way, is it that sounds transmitted to a tube like the stethoscope, vibrate with precision and accuracy, and more so if the ends are closed. The impulse communicated to one end is transmitted to the other, because there is no room for dispersion: hence it is, that a column of air is one of the best means of obtaining a communication between a sonorous body, producing sounds in the air, and the ear.

These matters are more curious than instructive; and the question that we have now to deal with is, what form of cavity is best adapted t transmit sounds. With respect to a close column of air, it does not matter much; it transmits sounds as well, and they will pass round angles and through crevices, with such a degree of facility, that if a flexible tube be applied to the chest, the sound conveyed through the tube will be transmitted with considerable force. The reason of this I have explained with regard to mechanical impulse. There is a disadvantage in having large cavities, or large hollows of any kind—tubes containing great excavations—and it is this, that there are new sounds produced in these hollows, such as the sound I have been adverting to—metallic tinkling, which arises from an echo taking place in the hollow, like the reverberation in a bottle, which you may hear on applying your ear to the mouth of the bottle; or which arises from a succession of echoes in a large body, such as the conch-like sounds heard in various degrees. This is heard in a flexible tube, and under these circumstances, with an improvement of this kind, you hear the sound very distinctly, but it is accompanied by a sort of metallic sound. The great object is to have a close column of air, which shall be as small as possible, and yet come as much in contact with the walls of the chest as will enable you to elicit from those walls the vibrations that have been transmitted. This object is accomplished by the trumpet-shaped stethescope, and this form of instrument answers better than any other, for the transmission of air sounds. I refer you to a paper read at a meeting of the Manchester Association, for the reasons for and against this form of instrument.

I now proceed to speak of the production of sounds from the solid wall of the chest. Some are produced indistinctly, as the sound of the *rhonchi* We must t. l.e solids with as little density, and as great rigidity, as possible. These ...

is better transmitted through air is—sound, being motion, light and rigid bodies are more easily moved than dense bodies. A soft body, such as a silk handkerchief, instead of propagating the impulse it receives, disperses and destroys it. On the other hand, rigid bodies are easily thrown into vibration, and the lighter the body, and the greater the rigidity, there is less dispersion. This is the reason why the sounds of solids are so much better transmitted by light and expanded bodies, than they are by dense solid bodies. It is, that the motion is more freely communicated by these light bodies, of great rigidity, than it is by dense bodies.

This, therefore, should lead us to select instruments of great rigidity, but with little density, and as light as possible. The instruments for this purpose should be either pine, or deal, or sycamore, they are very rigid, and answer the purpose very well. The form should be very light, in order that it should not interpose too great a bulk. The instrument invented by Laennec has been used for a long time, and there are many others of a very inferior kind in point of power, particularly for the weaker sounds; and, therefore, we must get an instrument as portable as possible, and as thin as we can have it, consistently with durable strength and rigidity. The trumpet-shaped stethoscope extends over a large surface, and therefore the contact is better, and I doubt if any instrument for the purpose is better. The only objection to this instrument is, that it is fragile, and soon gets broken; Laennec very effectually modified the shape of the instrument, by carefully listening to the sounds of the chest.

The theories in regard to the sound of the instrument were very erroneous. He found that an instrument without a stopper transmitted the sounds a great deal better than that with a stopper; yet he found that a sound, produced in a particular spot, of considerable intensity, could be heard through the stopper, but the sounds that are more diffused would be shut out by that means. This afford a means of distinguishing between the diffused fremitus of the voice, sometimes the natural bronchophony, and the more perfect bronchophony; and by using an instrument with a stopper, those sounds only that are intense and isolated and produced in a given spot can come through; whereas with the instrument used without a stopper, these sounds are not so readily transmitted. Now this is obviated by having a head-piece made of the same thickness and density, so that the solid part shall shut out the vibration of the chest, and the vibrations transmitted chiefly by the central channel.

I now proceed to some practical illustrations of these phenomena, and the mode of examining the chest usually pursued. First of all with regard to the visual examination of the chest by sight and touch. The patient should be placed in a good light, and you should place yourself in such a position that you can see the motions of the chest, and you should then desire the patient to take a deep breath rather freely. (The lecturer here proceeded to exemplify this mode of examination by a living model.) In order to secure accuracy, it is necessary not merely to use percussion by several strokes, but also it is requisite to vary the state of the respiration, in order to try whether there are any differences in the full expiration. Great care should be taken to keep the arms in a symmetrical position. In the application of the stethoscope, the object is to get the sound as perfect as possible; and to do this, you should place the instrument in firm and close contact with the wall of the chest, so as to get no superficial sounds from the exterior; and when you have so placed the instrument, apply your ear flat upon it. This instrument is made use of in measuring the respiratory movements, and as we shall see when we come to examine the subject of the heart, it is a valuable instrument in measuring the impulse of that organ. The following is a table of the

SOUNDS PRODUCED BY THE PASSAGE OF THE AIR SOUND OF RESPIRATION.

NATURAL.	By collision of the air against the sides and angles of air tubes.
Tracheal.	Heard in the neck at the top of the sternum.
Bronchial.	Near the upper parts of the sternum between the scapulæ, &c.
Vesicular.	In most other parts of the chest.
MORBID.	Modified in production or transmission.
Bronchial.	Or whiffing, transmitted from the bronchi by the condensed tissue of the lung.
Cavernous. *Amphoric.*	Produced in morbid cavities communicating with the bronchi.
RHONCHI.	Produced by increased resistance to the air moving through the lungs.
Sibilant. *Sonorous.* *Dry Mucous.*	Produced by viscid mucus in the bronchi, or by swelling of the membranes, or by pressure upon them.
Mucous.	Produced by the bubbling passage of air through liquid in the bronchi.
Submucous.	Produced by the bubbling passage of air through liquid in the finer bronchi.
Subcrepitant.	Produced by the bubbling passage of air through liquid in the smallest bronchi.
Crepitant.	Produced by the bubbling passage of air through liquid in compressed smallest bronchi.
Cavernous.	Produced by the bubbling passage of air through liquid in a morbid cavity.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c., &c.

(LECTURE VIII., Delivered December 10, 1842.)

GENTLEMEN.—I have gone over the subjects of inflammation, congestion, apoplexy, and other diseases of the brain, which may be called *dynamic*; before I dismiss this subject entirely, I will just make an observation or two on those diseases which may be called *adynamic*; which as you have already perceived, I have not been able to enter into more fully. One of the diseases which I call *adynamic*, is the disease called *delirium tremens*, and another disease that may be called adynamic is that state of the cerebral system which comes on in cases of extreme loss of blood. It is a very common kind of disease, and it appears to be connected not entirely with the loss of blood, but with a state of the intestinal canal, and the general system, at the same time.

With regard to *delirium tremens*, congestion gives you the true principle and the diagnostic symptoms of the disease, and, as I said before, there is nothing so much to be avoided in this disease as blood-letting. I never can forget having been called to a patient, an athletic young man, by no means apoplectic, affected with *delirium tremens*. Before I went to him, the practitioner had taken from that young man twenty ounces of blood. He was an athletic young man, whose powers were entirely at the healthy standard. He never recovered from that loss of blood; he could not be recovered from that state of depression into which the blood letting had thrown him. I believe that blood-letting was altogether, from the beginning, erroneous, and therefore ought not to have been instituted at all. I need hardly tell you the remedy is opium. The object is to get the patient to sleep, to quiet the symptoms by opium, whilst you are attending to other symptoms that may be wrong.

Respecting that state of things that comes on in puerperal disease, which arises from intestinal irritation and also partly from the loss of blood, this is very important to be attended to, and requires active treatment from the beginning; there is an unhealthy state of the intestinal canal. There are two other sources of it which ought not to be overlooked, and one is the administration of mercurial purgative medicines: and I have known this to be the immediate cause of the symptoms I am alluding to; and the other exciting cause is indigestible diet, which tends to produce that series of symptoms I have before described; excruciating pain, violent intolerance of light, and violent intolerance of sound. I have to tell you that this is by no means an uncommon disease, for puerperal disease is the most common that you meet with in practice.

One remark more I must not fail to make:—that this state of things has frequently laid the foundation of puerperal delirium; and frequently, even, it comes on at once in a number of cases after confinement. What then is the practical remark to which I am led? It is this; in puerperal delirium you must view the causes of the disease, and must consider the patient under the influence of gastric or intestinal irritation; and under a state of exhaustion from a previous loss of blood. There are other causes;—mental alienation, and fever are among the principal causes of puerperal delirium, and puerperal anæmia. And without reference to these causes, it is impossible for you to go to the disease aright. Dr. Davey used to say, "the question is not *whether* the patient will recover, but *when* the patient will recover?" I have known many cases of fatal puerperal mania, and I could propose another question in the place of that of Dr. Davey,—whether the patient had been bled or not? For if the patient has been bled, be assured there is great danger, but if the patient be not bled, there is no question of danger at all; and then the question is just that put to the profession by Dr. Davey, not whether the patient will recover, but when he will recover? I consider a copious blood-letting under these circumstances, at any rate, to bring the patient into extreme danger, if not to a fatal end; therefore, above all things, in such a case, avoid blood-letting.

Now I want to go to the spinal system; and I must say a word respecting those diseases I have already alluded to, paralysis and hemiplegia. This may be partial or total. It may attack an arm or a leg, or the speech alone; it much more frequently affects the arm or the leg, and very frequently, the arm, the leg, and the speech. But sometimes it affects the entire side of the body; so that the patient loses the sensibility of the whole side of the body; he loses the power of the muscular system on one side of the body, yet never entirely. Cerebral paralysis is rarely complete. There is a case, last of all, in which a clot has passed into the vertebral canal; that may be attended with complete paralysis. However, in most cases it is partial.

The next remark I have to make is as to the state of things in long continued paralysis. First of all let me remark, that in cerebral paralysis, in the general form, the arm is much more affected than the leg, more frequently, and more permanently than the leg. It very often happens that the leg recovers, and the arm does not. Look as you go along the streets, and you see many a paralytic person with an arm in a sling, yet walking very well. If the leg were affected as well as the arm, that could not be the case; and incapability of walking would be the terrible effect of paraplegia. Remember then, the arm is affected more than the leg, and it does not recover so easily. The arm always suffers, comparatively speaking, more than the inferior extremities.

Now there is a very curious subject, I want to bring before you very briefly. I have told you about the arm being more affected than the leg:—now the fact I want to impress upon your minds is, that although the arm is more affected than the leg—the effect of a state of hemiplegia,—it is only the cerebral power that is paralysed, because the true spinal system remains intact; the true spinal system remains unaffected. What are the reasons of the true spinal system being unaffected though the cerebral system be paralysed? Why, the true spinal system is the source of tone to the muscular system. Now, suppose my hand is affected, and has more tone than usual; suppose it has nothing of voluntary power; I open my hand, and what is the consequence? The flexors will be in antagonism with the extensors, and the consequence of that will be, my hand will be more or less closed.

Then from other causes than hemiplegia the hand will be closed. I have known a hand drawn forcibly to the side, as if there was extreme and sudden pain at the side. Another thing, I told you that it was the cerebral system that was affected; how do I prove this? Why, in this manner. Suppose a patient be yawning; you uniformly find the paralytic arm raised and the other arm not affected at all. The paralytic arm is raised during the act of yawning. Suppose the patient is agitated by any means; it is always the paralytic arm that is agitated. If from any cause the paralytic arm moves, it shakes.

Now, gentlemen, as to the cause of all this. Look at the irritability of the muscular fibre. You may test this by galvanism; put the hands in a basin of water, and let the galvanic shock pass through the water, and the muscles are completely irritated. Now submit a paralytic patient to the same thing, and you will find that the paralytic hand will shake. All this will prove that there is a greater irritability in the paralytic limb than in the non-paralytic limb. You thus account for the whole phenomena respecting emotion. Go to a patient, and you find that patient agitated by your approach. Why is it that the paralytic limb is agitated more than the non-paralytic limb? This is the reason. The same power of motion passes into all the extremities, all alike; it passes along the channels unaffected, to the right, and to the left, equally. Why does it shake the paralytic limb more than the other? Gentlemen, because it is more irritable than the other. How do I show this? In the first place, I must take it as a principle, that every time a muscle is exerted, its irritability is diminished—every time you use a muscle, that muscle loses its degree of irritability; and, therefore, a person after violent exertion, will have less irritability in the muscular fibre than a person after sleep. Sleep restores it, and exertion diminishes it. Now compare the two limbs, the one used, and the other not used. In one case, the irritability of the muscular fibre is exhausted—diminished; in the other, it is allowed to remain. Now, trying the effect of emotion, that would go to show that the shock would affect the limb most irritable. I exemplified this in a peculiar way on one of my patients. I told him to put one hand in a basin of water, and pass the galvanic shock: he came to me and told me the paralytic limb shook most. Therefore, you have these phenomena accounted for.

There is one other fact I must notice. If you give strichnine to a hemiplegic patient, what happens? By and by, you see the spasmodic effect of the strichnine in the contractions of the muscular fibres, but the paralytic limb is affected first, (the power of the strichnine extends to the right as well as the left,) and the paralytic limb is affected more than the other. This may be said to be through what appears to me a connexion with the cerebral function, which diminishes the irritability of the muscular fibres.

I will just now conclude this subject with one brief observation; that however true all I have said to you is with regard to cases that have lasted long enough to produce these changes, yet in exceedingly old cases there is an exception to the rule. Suppose the case of a paralytic limb of very long duration, in hemiplegia, so long is there an increased irritability in the muscular fibre of the limb in connexion with the spinal marrow—a considerably augmented irritability,—but in the limb in connexion with the brain, there is an exceedingly diminished irritability.

I am afraid I have taken up too much of your time with this matter, but I thought it quite necessary to give as much to the subject of cerebral diseases. I must now draw your attention to the diseases of the true spinal system. These diseases like those of the cerebral system, are divided uniformly into two classes, those which for the most part affect the membranes, and those which for the most part affect the marrow itself. It is rare that an inflammation of the membranes of the spinal marrow exists without inflammation of the membranes of the cranium; so, therefore, it is rare to have inflammation or spinal arachnitis, without the complication of cerebral arachnitis at the same time. But it sometimes does happen. It is, therefore, important that I should describe the disease itself. Now what are the symptoms of arachnitis in the spinal canal. In the first place, I believe, you may often trace it to the common cause of exposure to cold. I remember a patient who suffered from this disease from having got chilled in a pouring rain. He came home attacked with spinal arachnitis. I must, however, observe, that a blow or any other violent concussion may be the cause of spinal arachnitis.

Now for the true symptoms. They are pain and spasmodic affection. If there are any other symptoms beyond these, they may be said to be spasmodic affections affecting particular parts of the muscular system. Now with regard to pain; you constantly find in practice, that a proposition is made, to press along the spinal canal and the vertebræ, and to determine whether there be pain. If this is done with any other view than to determine whether there be any affection of the vertebræ themselves, or the muscles, or the tendons, or the ligaments about the vertebræ, the practice is an utter fallacy, because no pressure along the spinal column will affect the parts *within* the spinal canal. If the object is to ascertain if there be any disease of the spinal column, the bones, or the ligaments, or the contiguous muscles, I have no objection to the proceeding. I have seen it commonly had recourse to when the question has been, not whether there was disease of the bone or ligaments, but whether there was any disease in the spinal canal. I say with regard to pressure, it does not assist your diagnosis, as to whether or not there be any disease in the spinal canal. Schofield recommended the passing of a sponge taken out of hot water along the spinal canal; this appeared to me better *a priori*. I tried the experiment, and found it to fail; I never could detect any symptoms of pain in the canal, even when the patient said there was pain in that spot. I do not believe that the pain is aggravated by this pressure. There is one measure that has been adopted, that of counter irritation along the spinal column: I have seen it tried, but not with any good effect. Generally speaking, if there is pain, the patient points out the locality of the pain, and you can point it out.

With the pain, as I said before, there is spasmodic affection, and in one case I remember, the patient could not open the two forefingers; that case consisted of pain between the shoulder blades, just about the origin of the nerves supplying the arm; the patient saw double,—there was a little strabismus, confirming the observation I made, that with spinal arachnitis there is probably cerebral arachnitis; these were the three symptoms:—pain about the nerves running to the arm, a little strabismus, from affection of the nerve of sight, and a peculiar contraction of the fingers. In other cases you have other spasmodic affections; for suppose it is higher up in the spinal canal,—you have some affection of the breathing. One of the most common symptoms of true spinal affection is the sensation of a cord tied tight round the waist; I suppose that must depend on some contraction of the diaphragm. I do not pretend to say it is so; indeed I am not able to trace it to any peculiar affection of respiration, and I am not able to connect it with any peculiar state, except this state of things. This cord, or tightening round the waist, however, I have noticed over and over again, in cases of this description. It is mentioned in all works that treat on the subject.

What other parts seem most liable to be affected? Those parts below the abdominal viscera; for instance, the sphincter of the rectum, in some cases, is partly contracted, and the sphincter of the bladder is partly contracted. In some other cases you find spasmodic affection of the lower extremities, so that the toe is drawn under towards the heel. In cases of spinal arachnitis, the symptoms are various in duration, but eventually they almost all terminate in a transition from spasm into paralysis. When it is no longer irritation of the spinal marrow, but compression, you have a transmission from spasm to paralysis; and when you trace that state of things having passed into paralysis—that paralysis being, not hemiplegia, but paraplegia, cutting the body as it were asunder, you may be pretty sure of some disease within the spinal canal.

What is the difference between spinal arachnitis and inflammation of the substance of the spinal marrow itself? I believe, there is much less pain, much less spasm. In softening of the spinal marrow itself, you have no inflammation of the membranes of the spinal marrow; therefore, in these cases, if you find pain and spasm, or any symptoms of that kind that imply the early state of paralysis, you may look rather to the affection being in the substance of the spinal marrow, than in the membranes. In one case, the most sudden I ever witnessed in my life, attended by the late Dr. B.——, the patient came to have complete paralysis in three or four days. Such a case I never before witnessed. Such was the rapidity of the disease, that one might be said to have been taken with amazement. I thought it would be like most cases of hemiplegia, but it was complete in less than five days. I was struck with that point, and so was the physician who attended the case, and who is now no more. That case was one of ramollissement of the spinal canal. Sometimes, gentlemen, you have the spinal canal affected by accident, or the spinal canal may be affected by compression from that cause. Here the case was represented by a person who fell from a height on his head, so as to fracture the spinal vertebra, dividing it into two. Here you have perfect paraplegia, suddenly brought on by that accident. There is another case of a very different kind—the most interesting you can imagine; on the posterior part of the body of the vertebra, and, therefore, touching the anterior part of the spinal canal was a very small exostosis. It was a patient attended by the late Dr. B.—— the patient was drawn as it were double. All that could be done was to allay the irritation of the anterior column of the spinal marrow; for years and years he had been suffering agony of pain. You see what an important confirmation this is of the theory of Sir Charles Bell, namely, that whilst the posterior column of the spinal canal is for sensation, the incident nerves of the anterior column are for motion. Here you have an exostosis, a sort of vertebral cyst irritating the anterior column of the spinal marrow and producing a doubled state of the animal frame, the patient suffering torture and spasmodic affection.

Such, gentlemen, is a general description of disease within the spinal canal; there are various others to which I can hardly do more than just refer. You find ossification of the membrane; portions of the arachnoid ossified, ramollissement of the spinal marrow. Now I have to introduce a subject I have not yet touched upon, and it is a point which requires a careful attention, in order to understand to what it leads. You are aware of what I said respecting reflex actions; you dash cold water on the face, and an impression is made on the nerve; it produces some effect; that is carried to the spinal marrow and sent back through all the other nerves to the muscles of inspiration. If you irritate the fauces, the impression goes round the nerve, goes to the spinal marrow, and is sent back again to the muscles of respiration, and vomiting is produced. In a child suffering from encephaloid diseases or hydrocephalus, you have this state of things; the eyelid closes by reflex action, and if the eye does not close there is an absence of reflex action. Why do I introduce this just at this moment? —Just to show what in the case of spinal disease does in fact form your diagnosis. You come to a case in which there is disease of the spinal canal at a certain point. Suppose the disease is severe, and the action of the spinal canal below that diseased portion of the spinal marrow is left; if then you were to apply any stimulus to the foot—and the best stimulus, I tell you, once for all, is a sponge taken out of hot water—not too hot, lest it should scald the skin,—or taken out of cold water; in either of these cases you will have the foot drawn up, and it will be by reflex action. Another means is to prick the heel—this produces reflex action, passing to the other leg. This is observed in cases of paraplegia, but in some cases it is not observed; and I believe that in the first stage of

this investigation respecting the true spinal system, that was considered almost a proof, an incomplete one it certainly was for the reason I now allude to. Suppose the disease, instead of being as before, is lower than the *cauda equina*, and all the spinal nerves close where the *cauda equina* terminates, between the last dorsal and the first lumbar vertebra,—suppose the disease is there, can you expect reflex action there? You observe the part that is cut off: you observe there is no spinal marrow; in order to have a reflex action, you must have the incident nerve left, and the reflex nerve left, and without this you can have no action. Therefore, you see the distinction between disease below the last dorsal vertebra, and disease above the last dorsal vertebra. In the former case you have no reflex action, in the latter case you have.

Now we come to the diagnosis of that. There is a fact of great interest in a physiological point of view. In some cases of entire paraplegia, you find that the patient is capable of becoming a father—of producing a child; and in other cases such an event cannot take place. If the disease is above the lower part of the spinal marrow, and a portion of the spinal marrow be left, there is no reason why such an event as this may not take place: but if there is no portion of the spinal marrow left, if the reflex part is not continued, it is obvious that such an event cannot take place; for the whole act of generation depends on the true spinal system, and you cannot have this in operation unless this organ be entire.

There is one more observation I wish to make to you, because it is interesting in a practical point of view, and in a diagnostic point of view. It seems that it is the opinion of many persons, and especially of one of the most eminent of our surgeons—that you may have in some cases, disease of the arms—extreme paraplegia of the arms, yet no paraplegia of the legs. Now it is quite plain that if you have disease above the origin of the brachial plexus, that all below that will be in a state of paraplegia. I believe the above phenomenon is diagnosticated from disease of the bone, but not from disease of the spinal marrow. Suppose there is disease of the bone above the origin of the *brachial plexus*; that will produce irritation of the parts through which the *brachial plexus* passes, the nerves will contract, and there will be paralysis of the extremity as the consequence. What then is the consequence of disease of the bone, not affecting the spinal marrow? You may have the arms affected and not the legs.

This terminates the diseases of the spinal centre. What have I to say respecting their treatment?—However, before I come to the treatment I must make one observation. There is an interesting paper by Louis, of Paris, showing that wherever there is disease in the bone, there is disease with it in the spinal marrow,—affecting the spinal marrow just as inflammation or ramollissement. Why do I mention this just now?—because the case is a curious one. Louis says, "we learned that in case of disease of the bone which produces paralysis, it is not by compression of the spinal marrow, because that is rare, but the contiguity of the disease of the bone leads to ramollissement" and he says that in this case an issue proved available, and the conclusion come to is, that in all cases of ramollissement or inflammation of the spinal marrow, an issue is the remedy. You must cup the patient along the spine until you produce some impression on the system; and I would recommend you to add to the cupping, counter irritation. Now I go further, and say that I believe of all the remedies for disease in the spinal canal, the most important is deep seated counter irritation. What do I mean by this? Superficial irritation is that produced by the application of blisters, mustard poultices, and other things of that kind; but deep seated irritation is produced by setons and cupping. I need not tell you that it is important the patient should remain in the recumbent posture, and every means of producing quiet should be attended to; purgative medicines should be administered: the patient should be kept extremely quiet, and nothing should be taken of a stimulant character; barley-water should be almost the sole diet during the first stage of the disease. After this, active measures may be adopted—as much as the patient can bear—leeches or cupping. Other remedies may be adopted, which I will not now advert to, because I cannot sanction them by saying that I have met with any decided case in which they have had a good effect.

Before I conclude, I must first advert to one or two points; the first of which is that the urine under the influence of the ganglionic system, is apt to become alkaline. I do not know that this leads to any mode of treatment; but it is a fact that every one should know; and the second point is that the skin on the sacrum is very liable to become affected with mortification. I need hardly say how important it is to attend to this point; I suppose it partly arises from continued pressure, partly from the escape of the fæces and the urine, and also from a morbid state of the ganglionic system in that part, by which nutrition and secretion are not complete. Another point is the case of stupor, as in cerebral diseases, in which the bladder is very apt to become distended, and the patient is only relieved by the passing of the catheter. Not only the bladder, but the rectum itself is disordered in this way; and, therefore, in all cases you must adopt measures, such as aperient medicines. This concludes my observations respecting spinal diseases.

HUNTERIAN ORATION.

(Concluded from our last.)

But Hunter's object was not only to dissect, observe, detail, and exhibit a mass of detailed facts in anatomy; he had far higher aims than that of a mere collector of facts, even in comparative anatomy; and his feelings on this point were sufficiently expressed when, in reply to an invitation on the part of Sir John Pringle, to collect all his dissections of the turtle, and send them to the Royal Society, he stated, "that the publication of the description of a single animal, more especially of a common one, had never been his wish."

Mr. Hunter was not only in possession of numerous and precise facts in anatomy: he approximated them—he compared them together, and by his superior genius, arranged them in the true order to be followed in comparative anatomy—that of organs; for, as has been well observed, if species is the object of comparison in zoology, organ is evidently that in anatomy. Of the successful manner in which Hunter disentangled and unfolded these organs, tracing them from one species of animal to another, and exhibiting their modifications, museum is his the faithful record; and his labours in this respect must assuredly be regarded as the first great attempt to arrange in systematic order the detached facts of comparative anatomy. When I represent his arrangement as that according to organs, perhaps I ought to add, to function, for although the former was the visible manifestation, the latter was the presiding idea. And the 4to. manuscript catalogue, the most valuable Hunterian document remaining to the College, derives its chief importance from the information it supplies respecting the scheme of arrangement, and the general physological principles intended to be illustrated by the different series of preparations. It was this circumstance which distinguished Hunter from the other most successful cultivator of comparative anatomy of modern times. He studied this important subject with a view to physiology—Cuvier with a view (chiefly) to zoological classification.

Unfortunately for the earlier recognition of Hunter's high claims in anatomy and physiology, these could not be fairly or fully estimated until his manuscripts were published, within the last few years, by the College, in the physiological catalogue explanatory of his collection. And what must not science, as well as his reputation, have lost in those ten folio volumes of manuscript so shamefully committed to the flames.

But Mr. Hunter's Memoirs and Essays on various parts of the Animal Œconomy distinctly shew the vast range of physiological subjects which his mind grasped. And those who seek to know what his powers of observation, reflection, and investigation, were capable of, would do well to read his papers on digestion, animal heat, respiration, and generation, and consult the corresponding parts of the physiological catalogue.

As the vital organs and their functions had occupied a large share of his physiological inquiries, it is not surprising that the views which he thereby acquired were made available by him in his investigation and explanation of disease, and in his treatment of it. The powers of the absorbent system, and structures and properties of blood-vessels, the properties of the blood, the reciprocal influence of the different organs on each other, and a number of other physiological truths, all occupied their place in his pathology and practice. If he may have rated the powers of the lymphatics too highly, and sometimes given them too prominent a place in his views of morbid action, he did not over-estimate the power of absorption—an estimate which, with his true appreciation of the cause of failure in the old operation for aneurism, led to one of the most brilliant improvements in the treatment of disease to be found in the whole history of surgery.

It is scarcely possible to praise this improvement too highly, so great in itself, so fertile in its results, for it has conferred life upon hundreds. It was not only that a safer and more successful operation was introduced, but this very safety and success led to its application to numerous cases of the disease, which, under the old method, durst not be meddled with, the patients being left to their fate.

Knowing that Mr. B. Phillips had been for some time collecting from English and foreign works the number of various surgical operations recorded, and their relative success, I applied to him to furnish me with the number he had been enabled to collect upon the subject of aneurism treated according to Hunter's method, and he has been so obliging as to furnish me with the following return. 389 cases of aneurism had been so treated, and the result 277 cures.

	Cases.	Cures.
Subclavian . .	80	46
External iliac .	79	62
Carotid . . .	74	59
Femoral . . .	113	77
Humoral . . .	30	24
Various . . .	13	9
	389	277

And when you consider that the operation, as an established one, has, of late years especially, been often performed without any record of it being published, you will perceive that I have not gone beyond the truth in asserting that it has conferred life upon hundreds.

Among his pathological essays, the one on inflammation of the veins may be mentioned with especial praise. He was the first who understood and explained the nature of the malady, and opened the road to the additional discoveries made since his time. In his paper on Intussusception, he ingeniously shews how the different varieties of the disease are produced; and in his Essay on the Formation of

Loose Cartilages in Joints, he satisfactorily explains their presence by a reference to pathological preparations. But the loftiest efforts of John Hunter are to be found in his work on the Blood, Inflammation, and Gun-Shot Wounds. The mode of investigation in this masterpiece—the application of physiology to practice—suffices to distinguish him from all preceding writers, and may be considered as the basis of modern pathology. Its influence is felt not merely in surgery, but in medicine, for its principles are catholic. Up to the time of Hunter, surgeons were content to take their general view of the nature of disease from physicians. He emancipated them from their trammels, and established a body of doctrine so sound that it has wholly superseded the airy theories of medicine previously current. Nay, it seems to have stifled similar phantasmata in their birth, for since the days of Cullen and Brown no new *system* of physic has obtained the slightest vogue in England.

Hunter's consummate skill in the experimental investigation of physiological questions has been often and most deservedly extolled. That famous experiment with the egg—the most brilliant thing done with an egg since the days of Columbus—has set the question of vital heat at rest for ever.

"I put an egg," he says "into a freezing mixture at zero, and froze it, and then allowed it to thaw. Through this process I conceived that the preserving power of the egg must be lost, which proved the case. I then put the egg into a freezing mixture at 15 deg. and with it a new-laid one, to make the comparison on that which I should call alive, and the difference in the time of freezing was seven and a half minutes, the second one taking so much longer to freeze."

This experiment, and those which follow, may serve to shew John Hunter's mode of advancing in knowledge. By a scrupulous observation of facts, he gradually ascended from the particular to the general, instead of assuming a principle *a priori*, and bending facts to square with theory. I cannot, in short, praise his method more highly or more justly than by saying it was the one pursued by all who have obtained a lasting reputation, in ancient or recent times, as natural historians. It was this which enabled Aristotle to carry off laurels in the field of zoology, as immortal as those which he carried in metaphysics and dialectics. He was one of the greatest observers that ever existed, says Cuvier, and had the most extraordinary genius for classification that nature has hitherto produced. Some of his aphorisms, adds the same great authority, from their generality presuppose an immense number of observations.

It was upon this that Galen's great reputation was primarily founded. He was one of the most successful prosecutors of anatomy of his time, although obliged by its prejudices to content himself with the examination of animals, and consequently falling into error when the structure of man differs from theirs. He made many discoveries in anatomy and physiology. He was the first to prove by experiment that the arteries did not during life contain air, but blood; and the first to shew by their section the influence of the recurrent nerves on the voice, which nerves he discovered and traced to the larynx.

It was this method, which, revived by the great triumvirate of Italian anatomists of the sixteenth century, Vesalius, Eustachius, and Fallopius, was followed by Fabricius and our countryman Harvey, and which was established by Bacon, as the true logic of science. Their undying reputation proves its success, and when we impartially weigh what Hunter accomplished, we need not fear to compare him with the shining lights that had gone before.

In order, however, to form a just estimate of his comparative merits, we must look at the circumstances in which his rivals in the fasti of science were severally placed.

Thus, the position of Aristotle was most favourable, and both he and Galen received the best education which opulence and the severe discipline of Ancient Greece combined, could confer in philosophy and literature. In modern times Fabricius and Harvey, with the triumvirate I have mentioned, were equally fortunate, and if we pass from these eminent forerunners of Hunter, to Cuvier, his distinguished successor, we shall find that he also had walked from his childhood in the paths of learning and science. His early education was the chief employment of his mother—a woman of superior understanding united with the greatest tenderness. Without knowing the language, she made him repeat his Latin lessons to her; thus practising unconsciously perhaps, a precept of Locke. He drew under her eye, and she made him read numerous historical and literary works. "It was thus," says M. Flourens, "that she developed and fostered that passion for reading, and that extended curiosity, which, as Cuvier says in his memoirs, were the mainsprings of his life."

At the academy of Stuttgardt, Cuvier received an excellent education, and when driven to battle with the necessities of life at 18, and seek a subsistence in a foreign land, he was rich not only in knowledge, but in the confidence acquired by the constant successes of his scholastic life.

The career of John Hunter differs from the others I have enumerated in one very important point. His father died early, and it was his misfortune to have a carelessly indulgent mother, so that he passed his boyhood in sauntering, in country sports, and in cabinet-making. It was not till the age of twenty, that hearing of his brother's success, he gave up the *dolce far niente* for the rest of his life; came to London—entered William Hunter's dissecting room, and worked as few have worked before or since. Poverty and contempt had been imminent, but he burst with giant strength the bonds of habit which confined him, and escaped from the threatening spectres for ever.

This triumph achieved, the rest was comparatively easy. After this, we must no longer consider his career as an instance of "the pursuit of knowledge under difficulties." On the contrary, he had many special advantages.—"He began," says Sir C. Bell, "to work for himself on the excellent basis of his brother's labours." William was a man of good education, an accomplished anatomist, and rising into practice as an accoucheur. He had begun to form his museum, and his house gradually became the resort of those who wished to advance the art which they practised. Nor must we omit the important fact, that this brother, whose public and private tuition was destined to develope the genius of John Hunter, was ten years older than himself; a difference which would enable him to add something of paternal authority to brotherly persuasion. The same advantage was enjoyed by Charles Bell, and we have already seen with what fruits.

Yet, great as these advantages were, backed, too, by splendid genius and unwearied industry, did they entirely compensate for the want of early education? Some answer, "Yes;" nay, it is even a question with them whether a better and more learned training might not have stunted that eager curiosity, that faculty for observation, that power of generalizing, which he possessed in so eminent a degree.—This cannot be determined now; for instead of knowing the whole history of his feelings and attainments, some fragments alone have reached us: but it is very certain that a learned education had not this freezing power with those distinguished men to whose career I alluded just now. And then, reflect on the advantages which good training gave them.—Take Cuvier, for example. Whence did he derive the clearness of his descriptions, and the facility of his style both in written compositions and in oral communications? Whence but from the literary toils of his boyhood at Stuttgart? who, that sat on the benches of the amphitheatre at the Jardin des Plantes, will ever forget the impressions which he produced?

This clearness of expression cannot be predicated of John Hunter. When he gets beyond mere description, his language becomes obscure, and it is evident that composition was not easy to him. As a consequence of this, many of his MSS., among others the catalogue of his museum, were never completed. When we view him as a teacher, however, censure is swallowed up in admiration.

Nevertheless, it is said, that he was deficient as a lecturer; and he certainly seems to have wanted that vivid diction by which some men are enabled to enchain the attention of their audience, and lend the charm of novelty to the most familiar details. Sometimes, too, he appears to have been unable to express what he meant; and it has been boldly assumed, that, on such occasions, he had no meaning at all, and was "labouring with the delivery of nothing." Let us deem more nobly of John Hunter. Who can doubt that, in such instances, his mind was often wrapt in the dim vision of heights which he was not fated to ascend? What labourer in science or art, has not felt the force of the *nequeo monstrare et sentio tantum?* Without fluency and vivacity, however, a lecturer can rarely be popular; and hence John Hunter's lectures were but thinly attended. Like Milton, he probably was content if he could "a fit audience find, though few;" and he might, indeed, have been satisfied could he have anticipated the future glories of his pupils. Let us estimate his lectures, not by a cold analysis, but by their effects. When Demosthenes had thundered forth a Phillipic, the Athenians did not say, "What a fine oration!" but, "let us march against Philip."

The notes of John Hunter's lectures which have come down to us do not contain many specimens of his peculiar manner. The account of the treatment of cancer, however, is an example of his strong, unsparing good sense conveyed with extreme familiarity of style.

"No cure has yet been found; for what I call a cure is an alteration of the disposition and the effects of that disposition, and not the destruction of the cancerous parts, which extirpation, however, will often cure, as well as we could do by changing the disposition and action. Arsenic seems to have some power of this kind; and its effects might be increased by being used internally and externally; but its use is very dangerous, and, I am afraid, insufficient for the disease. This is a remedy which enters into the empirical nostrums which are in vogue for curing cancer; and among which Plunkett's holds the highest rank. But this is no new discovery; for Sennertus, who lived the Lord know how long ago, mentions

a Rodriguez, and Flusius, who obtained considerable fame and fortune by such a composition. I was desired to meet Mr. Plunkett to decide on the propriety of using his medicine in a particular case. I have no objection to meet any body. It was the young one. The old one is dead, and might have died himself of a cancer for aught I know. I asked him what he intended to do with his medicine. He said, 'to cure the patient.'—'Let me know what you mean by that. Do you mean to alter the diseased state of the parts? or do you mean by your medicine to remove the parts diseased?,'—'I mean to destroy them,' he replied. 'Well, then, that is nothing more than I or any other surgeon can do with less pain to the patient. Poor Woollett, the engraver, died under one of these cancer-curers. He was under my care when this person took him in hand. He had been a life-guardsman, I think, and had got a never-failing receipt. I continued to call on Woollett as a friend, and received great accounts of the good effects: upon which I said, if the man would give me leave to watch the appearance of the cancer, and see myself the good effects, and should be satisfied of its curing only that cancer (mind, not by destroying it,) I would exert all my power to make him the richest man in the kingdom: but he would have nothing to do with me, and tortured poor Woollett for some time, till at last I heard the sound testicle was gone, and at length he died."

I have stated that Mr. Hunter's lectures were but thinly attended, but that he might have been satisfied could he have anticipated the fame of his pupils. Among those who lived in his house, there were several who attained great eminence in their profession. But there were other pupils of his who had not these advantages, and yet drank deeper—far deeper—of the spring open to all. Among them may be ranked Poli, Scarpa, Blumenbach; and others who, fortunately for the progress of surgery, developed some of his favourite ideas with more fulness and precision than their master himself, and strove to instil into their scholars the doctrine and practice of their great instructor.

One of the most distinguished of these was Abernethy. In his Essay on the Constitutional Origin of Local Diseases, he has most ably made out his point; and, both in the treatise and in his lectures he surpassed John Hunter in the clearness with which he laid down the principle, and the practical tact with which he followed this law into its consequences.

Sir Astley Cooper, a still more illustrious man, was numbered among his pupils, and excelled him as a practical surgeon as much as he fell short of him in the qualities of a philosophic teacher. Every work of his was based on the most patient anatomical examination, and thus became a faithful commentary on nature herself. His treatises on Hernia, on Fractures and Dislocations, and on Diseases of the Breast, might found a reputation singly: what have they done united?

John Thomson, too, still left to us, was another pupil of Hunter's, who, in his celebrated work on Inflammation, followed out in a kindred spirit the views of his great master.

It is probably not going too far to say, that to the veneration in which these three distinguished men held the opinions and example of John Hunter, and their constant reference to him in their lectures, the propagation of his doctrines, and their influence on English surgery, has been mainly owing.

I will not detain you by observations on the personal peculiarities and failings of John Hunter; but there is one anecdote, which exhibits so strongly his practical tact, as well as his Johnsonian style of coming to the point, that I cannot refrain from quoting it.

He happened one day to call on Mr. Nicoll when his wife was pregnant for the sixth time, and took the opportunity of asking him whether he intended to kill this as he had killed all the rest of his children. Mr. Nicoll, it seems, had adopted what is called the hardening system with all the previous ones. Not understanding the question, however, he asked John Hunter what he meant. "Why," said John Hunter, "do you know what is the temperature of a hen with her callow brood (chickens), because if you don't, I'll tell you." He then proceeded to explain the necessity of warmth to young animals, and convinced Mr. Nicoll of the propriety of changing his plan, which he did, and with complete success.

It was finely said by Dr. Beddoes, that "when one heard that Hunter was at length the first surgeon in London, one felt a satisfaction like that which attends the distribution of poetical justice at the close of a well-told tale."

With this sentiment the intellect and the heart must alike agree; the honest and the clear-headed must equally exult in the ultimate success of John Hunter. Yet I will observe, in conclusion, that, had his career been cut short at an earlier period, he would not have laboured in vain, far less would he have lived unhappy. Unlike him who toils for gain alone, and whose praise is measured by the wretched gold which he has accumulated—unlike the warrior or the statesman, who must appeal to success for justification, and whose failures are reckoned as crimes by exasperated nations—the man of science labours in a genial field, where exertion is its own reward; for while the worshippers of power and wealth are sickened by each trifling disappointment, the humblest acolyte in the temple of knowledge feels that it is good to be there, and that even failures are but lessons. The pursuits of the scientific inquirer, when carried on in a right spirit, stand second to none among all the subjects which can occupy the human mind. Though faction and avarice unceasingly murmur in the vicinity, his mind remains unruffled by their clamour. Like the fleece of the Hebrew leader, while all around is parched, he alone is fostered by the gentle dews of heaven.

A SURGEON'S EXPERIENCE ON MESMERISM.

To the Editor of the 'Medical Times.'

SIR,—Allow me through the medium of your scientific and impartial Journal to state one or two points, more particularly for the information of the learned editor alluded to in your paper of the 11th inst., as to the importance of mesmerism in the alleviation of disease. I was called in haste in September to visit S.P., aged 18, affected with fits; on my arrival I learned that she had twelve in the previous four and twenty hours; she complained of great tenderness, in the spinal cord on pressure, region of the liver and pubis: catamenia suppressed for the last two months, in consequence of cold caught after their last appearance: she presented altogether an aspect of great debility. Leeches and blisters were applied to the spine and side; hip bath, with Mist. Ferri Co. and sulphate of quinine, and on the accession of the fits, assafœtida, enemas, &c. Notwithstanding these and other active remedies, the fits obstinately persisting, I mesmerised her at the first sitting in five minutes; she awoke in fifteen minutes, expressing herself inclined for further sleep; the next day I mesmerised her again, the fits having decreased to six in the 24 hours; in short I continued to mesmerise her every second day till quite free from fits. Her strength has returned, and it is now two months since she has had a fit. The other was that of a young woman, aged 19, similarly affected with chlorosis and fits; the chlorosis was removed by the usual remedies, but the fits still continued. I mesmerised her at the first sitting in two minutes, the fits have not returned, and she expresses herself as feeling the next day increased spirits and appetite. Now, Sir, I do not mean to recommend the indiscriminate employment of this agent in every case, nor substitute it for acknowledged remedies, but where there is no cerebral affection, I should not hesitate to employ it: it strengthens the nervous system, improves the digestion, and tranquillises the mind.

I have the honor to be, Sir,
Your obedient servant,
W. BOYTON, Surg.

Watlington, Oxon.

NOTICE.

Our next number will be one of extra size, containing 72 columns, and will be exclusively dedicated to pharmaceutical medicine. The chemist, the druggist, the general practitioner, will on seeing it, own that so much interesting scientific matter was never presented to them at so cheap a price, viz. 4d., or 5d. stamped. The ingredients of all the celebrated patent medicines—the improvements and discoveries in medicine during the last thirteen months, will be two among the numerous articles published. We shall feel obliged if our medical friends will communicate this intelligence in quarters where it may be of service.

TO CORRESPONDENTS.

Mr. Hands is thanked.

A. H. and others.—*The Excise prosecutions of Druggists will form a subject for observation next week.*

Mr. Eggis.—*Of course the Coroner has the power to award him remuneration, and if he refuses under the circumstances will be held guilty of a misdemeanour.*

M. R. C. S.—Mr. H. W. Y.—Inquirer—Spes—*declined.*

The case by Dr. W. does not suit us.

A. Z.—*Of course it is illegal.*

Mr. Prankard's communication has been received and will be noticed in our next number.

Quiz is severe on Mr. Burgess, the former chiropodist and subordinate attendant of the subordinate ambulatory infirmary lately in Blenheim Street, and now Heaven knows where. But not more so than he deserves. The accusation we launched against him lies unrebutted, an accusation which no gentleman could have deserved, and which no innocent man would lose an hour in disproving. We are sorry that we cannot, from want of space, insert our correspondent's note.

M. D.—*The fee for attendance, with a post-mortem examination, at a Coroner's Inquest is fixed by the Medical Witnesses Bill at two guineas.*

"*An enemy to injustice" will see that attentive to our duty we have anticipated him. If we do not compel Mr. Wakley to do justice to medical men it shall not be our fault.*

Mr. Self.—*We like not that paradoxical entity "Old News." This is our explanation.*

THE MEDICAL TIMES.

SATURDAY, MARCH 4, 1843.

Let me wring your heart, for so I shall
If it be made of penetrable stuff,
If damned custom hath not brazed it so,
that it be proof and bulwark against sense

PREPARING our readers for a rude shock to their sensibilities, we solicit their attention to the following alarming announcement in the last week's *Lancet* :—

"*Scandalous Trick subsequent to an Inquest.*—In inserting the following communication, which appeared in the *Times* newspaper of Wednesday, February the 21st, we have merely to remark, that we shall have something additional to publish on the same subject on another occasion. The *inquiry* cannot rest at its present stage. That *a scandalous fraud* has been committed, little doubt can be entertained by any *impartial* person, and we believe that we shall be enabled at no very distant time to drag the REAL CULPRIT before the public."

We are thus, then (if, forgetting our usual rule of interpretation, we do not hold this as Mr. Wakley's solemn pledge of future silence), to have an inquest on an inquest, and as Mr. Wakley—at least, while it pends—lies under a suspicion of Coronatorial incapacity, we will do him the favour of conducting it ourselves. The honourable member's reputation, as defunct *pro tempore*, is of course the subject of our inquest, and it will certainly be no fault of ours, if our exertions shall not aid—as he anxiously wishes—in "dragging the *real* culprit before the public." As, however, it is quite possible that our verdict may reveal a case of *felo-de-se*, we must, for the present at least, deprecate any more active interference on the part of Mr. Wakley, than may be justifiable in a suspected character, on his trial. Expert as he is in London life, he knows that "Stop thief" is the usual refuge of the humbler brethren of his craft, when hotly pursued by the inexorable policeman: and too much splutter about "scandalous frauds," and "dragging real culprits before the public," might sadly perplex simple and impartial "*Coroners*" like ourselves, novices in the infinite highways and byeways of roguery.

The first witness we shall call shall be a witness for Mr. Wakley, with whom, by *temporary* circumstances, he is condemned (so he intimates) to hold for the occasion common cause. The gentleman's name is Rowley, and carefully forewarning the public that he really is not the celebrated Old Rowley whom Chatterton thought it worth while to personate, we publish his important evidence *verbatim et literatim.*

"*To the Editor of the Medical Times.*

SIR,—In your weekly journal, published on Saturday, the 25th February, you have measured your opinion of the coroner and jury in terms not very liberal, nor with even-handed justice to either party, respecting the inquest held on Mr. Pledger. You say, 'The verdict was dictated by an ignorant and impatient coroner, and accepted by a silly jury, before whom not the least atom of reasonable, nay, attainable data, was allowed to be produced.' In justice to myself, to the fellow-jurymen with whom I acted, and to the coroner, I must request the favour of you to insert in your journal the enclosed statement, which appeared in the *Times* last week. The facts are there stated as they occurred; and having given your own version of this statement, I think it but fair that you should insert the statement itself, and leave the public, or those who take an interest in these matters, to judge for themselves. What you have set forth is far from being true, viz., that the jury had no data to form an opinion upon. I have no desire, or wish, to put myself between you and the public, as an advocate of Mr. Wakley's conduct as coroner, nor to discuss the opinion you entertain of that gentleman. He is able to defend himself. I, personally, know nothing of Mr. Wakley; never having seen him, or spoken to him, but on the occasion upon which the inquest was held; but, as you have attacked the common sense of the jury upon the false premises you have assumed, in a public journal; you should, by the same means, acquit them of the silly and culpable conduct that you have attributed to them.

I am Sir,
Your obedient servant,
THOMAS ROWLEY.
Foreman of the Jury.

Hornsey, 27th Feb., 1843.

Now, in acquitting our office impartially, we feel bound to notice, as attaching more weight to Mr. Rowley's testimony, the important fact (*duly* and *impressively* mentioned) that his respectability is not impeached by even a single hour's acquaintance with Mr. Wakley. If we well understand our friend, the essential difference between us is, whether it shall be *we*, or *he*, who shall write him down "silly." Though having evidently the stoutest opposition to be written down by special desire, Dogberry-like, "an ass," he seems the readiest creature in the world to lay down the same truism in an autograph; and while making him our acknowledgments for his humble and most obliging facility, let us hope that as we have both tried our hands at the game, to his especial humiliation, the duplicate assurance will not render his Christian conviction the less satisfactory, nor his night's rest the less composed.

The document to which Mr. Rowley refers us is certainly one of *peculiar* interest. It is signed by the jury, and affects to give "refutations to *certain* of the allegations" contained in the *Times'* statement, published in our last number. Here it is:—

The inquest was held on Tuesday, the 7th of February, and it is stated by the writer of the paragraph, published in *The Times* of the 16th inst., that "reports were soon spread that he (Mr. Pledger) had died from the effects of poison." We reply that no such reports existed at Hornsey,—no suspicion whatever was entertained there that Mr. Pledger had either destroyed himself or had taken poison.

The writer further states that the report that Mr. Pledger had so died "came to the ears of the parish beadle," who "thought it is duty to circulate the report, by waiting upon Mr. Wakley, the coroner." The beadle, Mr. Crouch, has this day stated in our presence that, previous to the inquest, he never heard, and therefore never conveyed to the coroner, any such report.

Lastly, it is stated in the paragraph that "the coroner is reported to have used the following words, at the same time lifting up the deceased's head, 'Ah, gentlemen, this is a sudden death; the man has died from a diseased heart, 'I've no doubt; there will be no occasion for a medical man."

At the inquest one of our number said to the coroner (after the testimony of three witnesses had been given), "Should not the medical man who saw him after death be called in, Mr Coroner?" to which the coroner replied in the following words:—"I have no opinion to give, Sir; but, if you have any suspicion that he died from any other than a natural cause, then there must be an examination of the body, as it is quite useless to have him here for the mere purpose of stating that he does not know what was the cause of death, for it is certain that he could not tell you that cause unless an examination was made."

One of us then stated that not the least suspicion was entertained that the death had occurred from any other than a natural cause, and another juryman confirming this (and the opinion was unanimously agreed to), added (as expressive of the feeling of the whole jury), that we did not consider, as neighbours well acquainted with the deceased, that there was the least necessity for the evidence of a medical gentleman.

On the coroner being asked what he himself considered was the cause of the death, he replied, "that he had had too much experience in the office of coroner to speculate on so obscure a matter;" that an external view of the body was in nineteen cases out of twenty of sudden death, medically considered, perfectly useless, and afforded no medical information whatever;" and that "if any doubt or suspicion of wrong doing in the present case was entertained by only one of the jury, a majority of them had the power to direct him to summon a medical witness to appear at the inquest to satisfy their doubts by a post-mortem examination of the body." The jury again gave the coroner to understand that no such doubt or suspicion existed amongst them.

The first witness who was called before us was Caroline Martin, a servant of the deceased, who stated, on oath, that she found him, at eight o'clock in the morning of the 4th of Feb., lying insensible, and perhaps dead behind the counter in his shop, which he had just before gone to open; that she at once called in her fellow-servant, and that the dead body was taken into the parlour adjoining the shop; that a surgeon, Mr. Hands, was sent for immediately, and came and examined the body externally; that she had seen the deceased on the night before, that he then seemed to her to be perfectly well and in good spirits, and that he did not complain of anything being the matter with him or of anything else, that he had not, that she knew, met with any injury or violence; that she had not the least reason for believing that he had taken anything to destroy himself, but that she believed he had died a natural death.

Martha Tribe, also a servant of the deceased, stated that she was called by the last witness to see the body of Mr. Pledger as he lay in the shop; that she had not seen him on that morning before, but had seen him at eleven o'clock the previous night; that he

most certainly, as she believed, did not destroy himself, that she had never heard him talk of destroying himself or wish that he was dead; that she felt perfectly assured that he had died from a natural cause, and not otherwise; that nothing whatever had occurred while she had been in his service to induce her to think that he had taken, or had ever contemplated taking, poison to kill himself.

Ebenezer Pledger, brother of the deceased, stated that he had seen the body of the deceased about an hour and a half after he was found dead; that no circumstance whatever had occurred to raise a suspicion on his (the witness's) mind that his brother had destroyed himself, and that he was thoroughly and perfectly satisfied that his brother had died from a natural cause.

In short, Sir, there could not be elicited from the witnesses, during the examination, the slightest evidence to induce us to believe that Mr. Pledger had taken anything to produce his death. He had resided in the village of Hornsey for nearly nine years, and from his general conduct, not one of us entertained the least suspicion of his having taken poison. In fact not any doubt was felt amongst us that his death arose from any but a natural cause. No influence was used by the coroner to affect our decision other than the clear exposition of his views that he stated as above quoted.

This document is followed by a letter of Mr. Crouch, constable or beadle, in which Mr. Hands, the surgeon, is made to say to him, in private conversation, immediately after the death, that the cause of the catastrophe was diseased heart and apoplexy. The worthy witness further attests that, *till ten days after the inquest*, and thirteen after the death, neither he, nor any one he had seen, had heard any rumour that the death was caused by poison; and that, up to the moment of writing (Feb. 20), he firmly believed "that the death was natural!" The only remarks this calls from us are, the rather incredible condescension of the truly respectable Mr. Hands, in giving the worthy beadle gratis, off-handed, medical opinions; and the absence of village gossip characterizing Hornsey, when an autopsy, performed the day after the inquest, in the presence of four persons, and revealing such an extraordinary result, should have been utterly unknown in the extended gossipping circle of the veracious Hornsey beadle and constable!

We have, next, Mr. Ebenezer Pledger, a very young man, brother of the deceased, who thus writes:—

After a careful consideration of all the facts and circumstances relating to the death of my brother, Henry Pledger, and all the recent events of his life, I feel perfectly assured, notwithstanding the allegations contained in a paragraph in *The Times* of Feb. the 16th, under the head of 'A Slight Mistake,' that my brother died a natural death, and did not take poison to destroy himself.

Now, the first fact we have to mention is, that the jury's statement, though recording conversations with the verbal precision of an able short-hand writer taking them down at the moment, was written on the *fourteenth* day after the inquest. The second is, that the statement does not profess to give an account of all that occurred, and, being *ex parte*, may be presumed, of course, to give nothing but what suited the defence of men who thought themselves on their trial. The third fact is, that the statement does not deny the assertion, though it distinctly mentions it, that the coroner, lifting up the deceased's head, said, "Ah, gentlemen, this is a sudden death; the man has died from a diseased heart, I've no doubt: there will be no occasion for a medical man." The fourth fact is, that none of the statements were written by the parties pretending to write them—THEY WERE WRITTEN BY MR. WAKLEY'S CLERK! *He dressed them up—carefully, ingeniously dressed them up—and it was from no deficiency of diplomatic finesse, that, after much difficulty, he got them signed.* This is an important fact, on which too much stress cannot be laid. The jury could not be trusted to give their own story: and the wily clerk concocts a tale for them, which, when they were all assembled, at a *public-house*, (at whose expense?) for the benefit of *one* of them *(for the landlord was a juryman)*, they were, after some little *troublesome scrupulosity*, poor honest countrymen, diplomatized to sign! Do we find scintillations, *here*, of the "Scandalous trick subsequent to an inquest?" Do we discover, *here*, matter that tends in some little force "to drag the *real culprit* before the public?" "That a scandalous fraud has been committed, little doubt can be entertained by any impartial person!" We thank thee, Jew, for teaching us that word!

That the jury believed, or thought, Pledger to have died a natural death, we have no doubt. Had they known him to have been poisoned, we could not have given them the epithet, "*silly*." But whose the fault? Scarcely theirs; for, to do them justice, they did enquire from two of the three witnesses they were allowed to examine, and with a care that apparently amounted to *strong*, but ill-directed suspiciousness, whether the deceased had said or done anything intimating the design of suicide. The brother, the third witness, is asserted—we know—by the clerk, to have been also asked a similar question; but as he has admitted, in the presence of a gentleman connected with our office, that he *knew* of his brother having deliberately spoken of suicide as a desirable consummation to him, we must be pardoned for disbelieving, on the interested writing of a clerk—that clerk the coroner's dependent—that the young man unnecessarily and uselessly perjured himself at the inquest. We say, the fault was the coroner's, though the weakness and silliness was the jury's. He it was that gave them the notion of there being a diseased heart—who told them that none of the jury were free, more or less, from unsound hearts how admirably must they have harmonized with their chief!—nay, that the very children of the landlord-juror were doubtless not more free than *they* were, from disease of the heart! When one of the jury—whose apprehensions were awakened by the fact which came out, that the deceased had been in low spirits for some time—asked whether the medical men should be called who saw the deceased; what (throwing the clerk's gloss aside) really said Mr. Wakley? "Do you suspect, Sir, there's been anything wrong?" directly intimating to him, that, unless he were prepared to go so far in assuming the ungracious character of an accuser, and in insulting the survivors living about him, by expressing a deliberate opinion against them, it was something very absurd to call in a medical man! Of course, the bullied country jury could not think of avowing an invidious suspicion, which ought not to have been asked from them or from any jury;—especially could they not avow it, when they saw that it was directly against the inclinations of the great man, the M.P., who wanted to be back to town after holding some half-dozen other inquests, in time (it was a *Tuesday* afternoon) for his Parliamentary duties! Yet—silly, silly jury!—after being thus misled into making themselves a public laughing-stock, by their solemn declaration, after *due* enquiry, that a man, with an ounce of essential oil of almonds within him, died a natural death—they are palavered into making their appearance before the public, with their convicts' ropes placed by their own hands around their necks, and declaring themselves the idiotic culprits! Since the time that Reynard persuaded the goat to descend into the well, into which he had fallen, that, with the vantage ground of his horns, he might be enabled to spring out, we have verily heard of nothing resembling the juridical scapegoats of Hornsey—and their honourable friend, Mr. Wakley!

We have no further space except for the shortest facts. The medical man usually attending Mr. Pledger, we mean Mr. Baker—the medical man who saw him immediately after his death, we mean Mr. Hands—the sister-in-law who knew perfectly his circumstances and character—the man who, with his son, first saw the body on the alarm of death, and who moved it from one room to the other—all these *real* witnesses who could have thrown light on the death, if any persons could, WERE UNCALLED: and a frightened little girl, a temporary nurse, and a boy brother, composed the corps of witnesses—the whole inquest lasting but half an hour! Is this the way public money should be earned? Is this the way public duties should be discharged?

But Mr. Wakley's has the daring—the flagitious impudence, in the hope of hiding his extraordinary delinquency as a Coroner, to charge *without the least shadow of evidence*, some unnamed party with the abominable act of inserting poison in the corpse. Marshall Hall's procedure to our excellent reporter was morality itself to this. The servant girl affirms that the phial of the essential oil of almonds was placed by the deceased on the marble place of his back parlour—that its contents were much lowered in the morning when the deceased was found dead near it—

the autopsy was performed at the request of a surviving relative—four persons, three of them medical, were present during the whole time—and finally the Coroner's clerk, no later than Monday, the 27th inst., affirmed—after an enquiry, too—to a gentleman whom we can name, that "he had no doubt in the world that Pledger had poisoned himself." What means then this foul—this hideous accusation? Is it part of "the scandalous trick subsequent to an inquest?" Does it afford us fresh aid "in dragging the REAL CULPRIT before the public?" The questions are serious to a man who would value a character for something approaching to decent morality; we pray thee Mr. Wakley answer them if thou canst?

REVIEW.

An Exposition of the Pathology and Treatment of Tubercular Phthisis. By Samuel Flood, M.R.C.S., &c. &c. London: 1842.

THIS is a rambling essay or memoir upon a very important subject, in which the author, with more boldness than prudence, forces upon the medical public, two novel ideas. The first is, that Phthisis is not a disease of the lungs, but of the digestive apparatus; and secondly, that consumption is not only curable, but that our author has discovered a *specific* for this formidable malady. In proof of his first assertion, the author endeavours to show that phthisis and scrofula are identical affections, and that the most prominent symptom of phthisis is *emaciation.* From these two positions the seat of the disease is *deduced.* Such questions are obviously not to be decided by reasoning, but observation; and we think, had the author ever made *post-mortem* examinations of phthisical subjects, we would have been spared the trouble of refuting such absurd paradoxes. Even admitting the identity of scrofula and phthisis, it does not follow that phthisis is a disease of the digestive organs; for scrofula may show itself in various and different situations, besides the digestive organs. Do we not see it sometimes confined to a bone, or bones; sometimes to an articulation; sometimes to lymphatic ganglia in the neck, in the chest, in the abdomen? &c.; or the scrofulous deposit may be chiefly, if not exclusively, confined to some one internal organ, as the lungs. Every one knows that in phthisis the lungs are the seat of the disease, and it appears to us as absurd to locate the disease in the abdomen, as it would be to aver that it is a disease of the gluteus maximus muscle. We need not refer to the physical signs of phthisis as having a reference exclusively to the lungs, nor to the evidence of the fact which *post-mortem* examinations afford, for in our mind the conclusion is already established, and it would be a work of supererogation to refute what is so obviously erroneous. After death, although other organs are sometimes found affected, we have sufficient evidence that the cause of death exists in the lungs, and that the disease called phthisis has its seat exclusively in the pulmonary tissue. We regard, therefore, our author's views on this point, as perfectly chimerical, and his treatment of the mesenteric glands in this disease, as worse than foolish. Our author's treatment of phthisis, consists in generous diet the internal use of iodine and cantharides, and topical applications to the abdomen, such as blisters, iodine plasters, &c. We cannot speak favourably of the work; the style is faulty, the views of the pathology inculcated, crude, indigested, and contradictory; and his principles of treatment partial, defective, and calculated to mislead the young and inexperienced. We would recommend the author to cultivate his *observing* faculties, and leave reasoning and deduction, for which he is by nature incompetent, to others; and above all, we would beseech him never to write on any medical subject which he does not fully comprehend.

PHRENOLOGICAL SOCIETY.

THE meeting on Monday the 20th ult. was numerously attended. Dr. Elliotson in the chair. Mr. Atkinson, F. G. S., read a paper on the late John Varley, the eminent painter; he described him to have been a man of wonderful genius and intellect, original in all his conceptions, grand in all his designs—an ardent admirer of nature and nature's works; he loved the sublime and beautiful, the cloud capt mountain, the lowly valley, the placid lake, the umbrageous wood "impervious to the sun;" these were his delight to view, and these he so inimitably transferred to canvas. In landscape painting he stands pre-eminent—none have excelled him, few can equal him; he was the founder of this species of art in water colours. In manners he was mild, affable, benevolent, and communicative; his charity was as large as his expansive heart; he knew no distinct country or creed. "Friend to no sect, he took no private road, but looked through nature up to nature's God." As every mirror has its dark side, so has human nature its frailties. Varley's might have been called amiable, it was credulity; he believed nearly all he heardorread; hewasan astronomer, and deeply impressed with the truth of the occult science of astrology: he imagined the starry host to possess an influence over the actions and feelings of men, and "that there were more things in heaven and earth than were dreamt off in our philosophy. Varley was wholly devoid of worldly prudence, and was consequently always in difficulty. The cast of his head was exhib ted. The coronal region was large; the moral faculties highly developed, and the intellectual, to a high degree. Ideality his predominant sentiment, was strikingly large, also benevolence and constructiveness. Mr. Atkinson at the close of his address was much applauded. Dr. Elliotson said he wished to call the attention of the meeting to the report of the Hunterian Oration, which he had read in the *Medical Times* of the 18th inst. The Doctor said here was a gentleman addressing the first surgical college in the kingdom, and asserting that to Sir C. Bell belonged the honour of the greatest discovery made in the nervous system for 20 centuries. The passage is as follows: "In a word there belongs to Bell the great discovery, the greatest in the physiology of the nervous system for 20 centuries—that distinct portions of that system are appropriated to the exercise of different functions." Dr. E. in no way detracted from the merit due to it; it was a discovery, and as such entitled to praise; but when compared with those of Gall it shrunk into insignificance, "it was as a wart to ossa." What Gall years before discovered with respect to the brain, Bell applied to the excito-motor nerves. The former said that separate parts of the brain have distinct functions; the *latter* had found out after twenty centuries "that distinct portions of the nervous system are appropriated to the exercise of different functions."

WESTMINSTER HOSPITAL.

CLINIQUE OF MR. GUTHRIE ON SOME POINTS CONNECTED WITH DISEASE OF THE URINARY ORGANS.

Delivered on Saturday, 25th February, 1843.

The Clinique at this hospital on Saturday last embraced *three* important points of surgical practice connected with morbid states of the urinary organs:—the first the mode of introducing the catheter into the bladder · the second, the method of tunnelling obliterated portions of the urethra, and the third, that of crushing stones in the bladder, and extracting fragments of stone from the bladder and urethra.

The first case introduced into the operating theatre, was that of a patient who was long supposed to be laboring under stone in the bladder, while no stone existed. Upon introducing the sound, a sensation was felt as if the instrument had struck upon a hard surface. This arose from a diseased condition of the bladder, but the kidnies were also seriously diseased, and the case did not fall strictly within his province. Mr. Guthrie brought the patient before the students, more for the purpose of showing the mode of introducing the catheter, or bougie, in treating affections of the urethra, than for any other *purpose*. Mr. Guthrie then took the catheter into his hand, and exhibited the way of *holding* the instrument, and *commencing* the operation, and insisted upon the student carefully examining the structure of the urethra in all its relations, before he attempted to introduce a catheter into the bladder. He showed the method of introducing the instrument in succession through, 1st. the pendulous part of the urethra—2d, the perineal portion—3d, through the triangular ligament of the pubes—4th, through the membranous part of the urethra—and 5th, through the prostate portion,—pointing out the peculiarities and difficulties of each subdivision of the urethra, and summed up the whole by some excellent practical proofs of the adroitness which practice alone can impart in the introduction of the instrument.

Mr. Guthrie's remarks upon the foregoing case were introductory to an interesting case of *stricture*, which was next brought before the pupils. The case was that of a soldier admitted into the hospital about four months ago, with a stricture of eight years' standing. When the patient was received into the hospital, he was in a truly deplorable state. He could hardly pass one drop of urine, and the No. 1, or smallest bougie, could not be carried into the bladder. Upon examination, the urethra was found constricted, and nearly obliterated, to the extent of about two inches at the deepest part of the pendulous portion of the urethra. This contracted part of the tube was throughout the whole of its extent cautiously transfixed by an instrument essentially consisting of a straight silver tube, which is carried down to the stricture, and of a lancet shaped *stiletto*, made to project from the tube, and open up the canal. After incising in this way the urethra, an ordinary sized bougie was immediately after carried through the stricture. Beyond the pendulous, and in the perineal portion of the urethra, anterior to the pubes, another stricture was found to oppose the transit of the bougie. This was also transfixed by the lancet-shaped stiletto. The strictures being thus overcome, and the passage re-opened, a bougie was then carried with ease into the bladder. An untoward accident, which arose during the treatment, was next adverted to. The subsquent introduction of the bougie, which was necessary for effecting the cure, occasioned so much irritation, that the case was retarded for some weeks, by the formation of

an abscess around the exterior of the contracted portion, which Mr. Guthrie compared to those abscesses, or blind pistulæ, which sometimes form around the rectum. By the regulated and daily introduction of the bougie, the canal has been gradually dilated till it can now let pass, as was shown, a No. 11 bougie, and in another month, Mr. Guthrie thinks that the largest sized bougie will easily pass, when the patient will be dismissed cured. In expatiating upon this case, Mr. Guthrie directed the attention of the pupils to the *thinning* of the corpus spongiosum, concomitant with stricture of the *pendulous* part of the penis, and to the thickening, or hypertrophid state of the parts surrounding strictures in the *non-pendulous* parts of the organ. The causes of these differences of result, Mr. Guthrie did not attempt to explain, but he considered the facts as established.

The third case brought before the pupils was one of no small interest. The young man had been operated upon for stone some months ago, by Mr. White, the senior surgeon of this hospital, and was dismissed apparently cured The patient returned, however, with a fragment of the stone that had been previously crushed by Mr. White, obstructing the urethra. As the symptoms were urgent, Mr. Guthrie, in the absence of Mr. White, picked out some of the smaller pieces from the urethra, and succeeded in pushing the largest fragment back into the bladder. Mr. Guthrie then entered into some explanations regarding the operation of lithotrity, and described the instrument he is in the habit of using. He first injects four or six ounces of water into the bladder—carries the crusher cautiously into the bladder,—then separates the blades of the instrument. Mr. Guthrie never searches for the stones: he merely passes the instrument to the most depending part of the bladder, when the stone falls upon the instrument, and is seized. If the stone is very small, (smaller than a split pea,) it cannot be seized by the instrument. In this case, Mr. Guthrie recommends a dilatation of the urethra, and the forcing of the stone, out with the urine, and related an interesting case of a private patient of his own, who was eased in this way. The patient suffered much, and many unavailing attempts were made to seize the stone. Mr. Guthrie then dilated with bougies the urethra, and one day, during the evacuation of the bladder, a very small stone, consisting of an aggregation of acicular chrystals, was expelled, with an immediate and complete cessation of all the painful symptoms

ADVERTISEMENT.

(To the Editor of the Medical Times, and Gentlemen of the Medical Profession.)

Sir,—Permit me to offer you my thanks for the kind manner in which you were pleased to notice my new farinaceous productions for infants and invalids, and allow me through the medium of your excellent and widely circulated journal, to present my warmest acknowledgments to the gentlemen of the medical profession generally, for their countenance, and particularly to thank those who have so kindly favoured me with similar testimonies. Trusting that the opinions so freely given will be kindly seconded by recommendations, in accordance with their recorded certificates.

I have the honour to be Sir,

Your obliged and obed. servt.

JOHN BRIGHT.

Brixton Hill, March, 3, 1843

CURABILITY OF CONSUMPTION.

(Continued from page 349.)

(To the Editor of the 'Medical Times.')

Sir,—I now proceed briefly to notice the principal concomitant affections or complications of phthisis, over which measured mechanical respiration exercises a beneficial control. One of the more frequent and troublesome of these, is ulceration of the larynx. The vicinity of the morbid action to the brain, determines the blood to that organ; and the obstacle to its return, presented by the peculiar stifling character of the cough, keeps the patient in a constant state of excitement and irritability, equally distressing to himself and his attendants. The sense of constriction in the throat, dryness of the fauces, dysphagia, rejection of the food through the nostrils, lancinating pains shooting in the direction of the ear, all conspire to torment the unhappy sufferer, and diminish the value of any addition to the term of his existence. It is astonishing how long this affection may protract life. I have known it to do so in some instances for five or six years; this is effected by the impeded expiration, consequent on tumefaction within the larynx and adjoining portion of the trachea, which renders the lungs voluminous. Thus, we may account for the small size of the cavities so commonly observed on dissection: traces of obliteration are also of frequent occurrence, indicating the repairs, nature was carrying forward by the aid of the obstruction.

M. Cruveilheir, in his "Anatomié Pathologique" records a case in point. He says:—" A labourer, aged 40, entered the Maison Royale de Santé, with all the symptoms of laryngeal phthisis. He had been seized with hoarseness about ten months previously to his entering. On examination, his lungs appeared healthy, with the exception of a dry and sonorous cavity in the summit of the right lung. The patient died, suffocated by the laryngeal affection. On opening the body, the vast cavity in the summit of the right lung was perfectly cicatrised." The affection of the throat, in this case, obstructed the expirations; the lungs, rendered voluminous by the detention of the air, brought the sides of the cavity into apposition, and cicatrization ensued. This was, however, but the substitution of one evil for another, equally, or, I might say, more dangerous, and certainly more distressing. So little do the lungs exhibit of the characteristics of disease,occasionally,—so masked are all phthisical signs—that the affection of the throat is often regarded as primitive, and hence we hear laryngeal phthisis sometimes mentioned as an idiopathic disease. In all cases supposed to be so, the lungs, on autopsy, will be found to reveal the unequivocal tokens of primitive pulmonary tubercularization, or the versed auscultator will have discovered it previously. The use of the tube has been found eminently serviceable in averting this complication, or modifying its character; it will rarely happen that prevention is not secured by its timely employment. Its power will be in proportion to the length of time intervening between the commencement of its use, and the period when, without it, in the course of nature, the laryngeal affection would have supervened. If other circumstances should not contraindicate—even after the supervention—it may be advantageously employed to relieve the difficulty of breathing present. All these desirable results are obtained without the drawback of any aggravation of the symptoms, danger, or pain.

Another most alarming complication is diarrhœa. When it sets in, the patient's death-knell, in the great majority of cases, begins to toll; the chances remaining of a lengthened respite are very few indeed, but even these are increased by the careful and judicious use of the respiratory tube. I recollect the case of a man, named Swedenburg, who was admitted into the Infirmary for Diseases of the Chest, in 1838, with every bad symptom of consumption, and, among the rest, diarrhœa. His lungs were extensively diseased, yet he lived more than two years, during which, under this treatment, all the constitutional symptoms were greatly moderated, and existing cavities healed up. He died at last of diarrhœa. I have already stated that, in old catarrhal cases,tuberculous diarrhœa i rarely indeed met with. Inhalation in the late stages produces a similar effect to catarrh: littl apprehension of diarrhœa need be entertained, i its use has been previously practised for an reasonable period. Thus, it would appear, that i may be employed to execute palliative and pro phylactic, as well as curative, intentions. It ma be thrown out as a sheet-anchor, even at th eleventh hour. I am in possession of the name o a clergyman's daughter, who had been despaired o in phthisis, by several medical men, among whon was a physician some time retired from his con nexion with St. Bartholomew's Hospital, who ha been consulted, and yet she dishonoured thei prognosis by surviving six years. As a *dernie resort*, she made trial of the inhaling apparatus fo two or three months, during which a decide retrogression of all her bad symptoms was esta blished. Considering herself well, she left it of It is not improbable that, had she persevered til her disease had been more completely brough under, she might, so far as it was concerned, hav been still alive. I have met, besides, with thre other consumptive cases, despaired of by the sam physician, who did well under this treatmen Two of them are now, after the lapse of a fe years, alive, and in good health.

Pleuritic adhesions in by far the greater num ber of cases, are occasioned by irritation from tu bercles in the subjacent tissue of the lungs. What ever expands the air cells, seems to take away thi disposition to form pleurisy. In cases of asthm we find pleuritic adhesions of very rare occurrence except at the summits of the lungs: when me with, they may be often considered antecedent i origin to the latter disease. The lungs in thi state afford the finest specimens of exemption fro morbid pleuritic agglutinations, or thickening it is interesting to observe in those cases,where the do occur, how the air cells of the portions cover by healthy pleura are greatly dilated, hypertr phied, and as it were ready to burst their bond The respiratory tube by its expanding power in similar manner prevents these adhesions.

Its value in catarrh, which it supersedes as curative agent, must not be overlooked. By du exercise and expansion of the bronchial ramifica tions, it contributes to allay or indispose to, irrita bility of the lining membrane, and I have ofte heard patients state that after its use in the morn ing they have been better, and more freely able t bring up the accumulated phlegm. When con traction of the trachea exists, the pulmonar exertion required for the expulsion of the air b the pressure from below upwards, dilates the grea air passage, and counteracts the tendency to spas modic action and superficial ulceration or thicken ing. Hence it may be advantageously resorted t a few months before the approach of winter, o before removing to cold humid climates, particu larly by persons who are very susceptible of th repetitions of this affection from exposure to th ordinary exciting causes. It contributes to preven and remove congestion of the mucous membran by the healthy cuticular action consequent upo improved sanguification. As a prophylactic it ma also be ordered when the constitution is scrofulous it alters the habit, and renders not only the lungs but also all the other viscera less susceptible o tuberculous deposit. Hence we might deduce th propriety of its general adoption by the member of those families in which the hereditary taint i suspected, or already begins to develope itself.

In cases of empyema its employment is calculate to add to the chances of recovery by improving th condition of the lung on the side opposite to tha affected, and producing slight expansion of th diseased lung even in the face of the accumulate fluid, if timely resorted to,before the conversion o the investing pleura into fibro-cartilaginous tissue The disease is kept from advancing: the empye matous matter thus left to itself may,under favour ble circumstances, determine to the surface. subjoin two cases that have come within my know ledge illustrative of this result.

About five years ago, Mr. S——, of the Entré Office, at the Custom House, Liverpool, came u to London for advice. He was found on examina tion to be labouring under consumption, with em

pyema of the left pleural sac,and his general health was less impaired than might have been expected from the nature of his malady. The condition of the chest, and all the symptoms were further improved by the use, for several months, of the respiring tube. A tumour at length formed which soon began to fluctuate, and matter pointed externally. It was opened by a surgeon in Liverpool, and the contents of the pleural sac allowed to escape. After some short time he improved surprisingly, became robust, and considered himself perfectly restored, with the exception of a slight oozing discharge, which rarely amounted to a wine-glass full in a day. During this progressive state, he was in the habit of practising the mechanical respiration, but on his health appearing to him so very satisfactory it was laid aside. He now married, and mixed in general society, visited and frequented parties as a person in perfect health would do. A few months subsequent to his marriage, fresh liquefactions in his left lung brought about a return of alarming symptoms, which becoming gradually worse, he came to town once more for advice. His case being considered interesting he was shewn by Dr. Ramadge to several of the gentlemen attending the infirmary. He survived about six months, and was visited towards the close by Mr. King, an intelligent practitioner in the Hackney Road, in conjunction with Dr. Ramadge. He acknowledged that he had neglected the directions sent to him in Liverpool, the principal of which were, to persevere in the use of the tube, and avoid exposure to the night air. Had he carefully observed these directions, he might have recovered instead of sinking as he did under the disease. His well marked improvement in the beginning when he strictly acted upon them countenances this supposition. His death took place about eighteen months after the operation, and was attributable to exhaustion from fresh liquefaction and its sequelæ. The discharge never entirely ceased, but did not increase during his last attack.

The other case was that of a young lady living at Gravesend, a friend of a very intelligent practitioner, Mr. Beale of Bedford Square, Stepney. She had been confined to her bed for some weeks, constantly lying on the left side. Dr. Ramadge visited her at the request of this practitioner, and pronounced it to be a case of empyema supervening on consumption. The constitutional symptoms were then absent, but had been exceedingly well displayed, as appeared from enquiry, before the occurrence of effusion. It is worthy of note here, that when empyema takes place in phthisis, the constitutional symptoms become equivocal,—are either very slightly marked, or nearly absent. Leeches were recommended to be applied to the side, followed by blisters, with a view to lessen the vascular action of the serous membrane and promote absorption. It is unnecessary to enter into the case more minutely than to state that the mechanical treatment was adopted to obliterate phthisical excavations, and produce a general pulmonary expansion. After the lapse of about two months the matter pointed; an opening was made by a surgeon, and was followed by a purulent discharge, which continued for some weeks. Meanwhile, she persevered, as directed, in the practice of inhaling, her symptoms being at the same time watched by her usual medical attendant. A few months afterwards, being perfectly restored, she came to town to present herself to Dr. Ramadge. More than two years have since elapsed, and she still remains without any pectoral disorder, and in a very satisfactory state of general health.

This instrument was originally prohibited in affections of the heart generally, but further experience has proved that it may be resorted to here with advantage, when the lungs are not congested, but simply voluminous in consequence of mucous bronchial intumescence or tracheal spasm. It has been 1een found useful in heart affections symptomatic of chlorosis, and in most of the nervous complaints of females attended with dilatation. Its beneficial effects on the sanguification are exemplified by altering the complexion from a pale to a healthy sanguineous tint, and on venous congestion by removing sub-lividity of the lips and turgescence of the veins of the neck.

I might enter into various minutiæ under each separate head above glanced at, as the pathological materials and illustrative facts at my command are abundant; but enough has been said to shew that I have not been an inattentive observer of phthisical phenomena, and am not chargeable with excessive credulity in assenting to the value of mechanical pulmonary expansion,or ill-directed zeal in my endeavours to make proselytes to doctrines I believe to be important and incapable of successful contradiction. I feel convinced I shall succeed to the extent of inducing many to give them a fair, patient, and judiciously conducted trial, with a view to fulfil either palliative or curative indications. That which courts investigation and experiment from scientific men, must possess some of the attributes which command professional attention and esteem. The more this question is sifted will its merits be appreciated.

——— "*Valet hæc sub luce videri,*
Judicis argutum quæ non formidat acumen."
DISCIPULUS.

[The literary merit of these letters make them attractive—but their insertion interfering with courses of lectures we are pledged to give, the correspondence must here terminate.—ED.]

PERISCOPE OF THE WEEK.

CAPACITY OF THE LUNGS.—M. Bourgery states that in examining the relation existing between the structure and functional capacity of the lungs in both sexes, and at various periods of life; experiments were made with a hydro-pneumatic apparatus on 70 persons (50 male, 20 female,) from which the following results were deduced:—The respiratory act, *cæteris paribus*, is more forcible in proportion to the youth and slender make of the individual. No condition of strength or health is capable of supplying the place of youth. Respiration in the male is double the volume of that of the female for the same age. The maximum for both sexes occurs at the age of thirty years. In a well-formed person of that age forcible respiration represents the quantity of 2.50 to 4.80 litres for the male; and of 1.10 to 2.20 litres for the female; in the boy of fifteen years 2. litres; and in the old man of eighty 1.35 litres.* The volume of air required for ordinary respiration gradually increases with age. The ratios between the ages of seven, fifteen, twenty, and eighty, are geometric, and represented by the numbers 1, 2, 4, and 8. The well-formed adult respires habitually the quadruple of the young child, and the double of the female or child of fifteen years, while the old person respires the double of the adult. This progressive increase, or necessity for a greater volume of air, expresses the diminished power of the lung as an organ of hæmatosis; hence, the latter decreases from infancy to old age, in proportion to the following numbers: 1, $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$.—In forced respiration the permeability of the lung to air presents two periods; one ascending from infancy to thirty years, the other descending from thirty to old age. The former increases in a regular ratio 1, 2, and 3. from seven to fifteen and thirty years; the latter decreases from 3 to $2\frac{1}{2}$ between thirty and fifty years; and from $2\frac{1}{2}$ to $1\frac{1}{2}$ between fifty and eighty years of age.—Taken on the whole, the respiration is trebled within the space of twenty-three years in youth, and increases by 1-9th for each year. After manhood it diminishes by 2-5ths in twenty years, or by 1 000th for each year. From fifty to sixty years it decreases by 1-5th in ten years, or 1-50th for each year. And in old age, from sixty to eighty, it diminishes by nearly $\frac{1}{2}$ or 1-20th for each year. This gradual decline of the respiratory power must contribute in great measure to the gradual extinction of the powers of life as old age advances.—This latter proposition is further confirmed by the fact that the ratio of ordinary to forcible inspiration diminishes as the age advances. At seven years of age this ratio is as 1 to 12; at fifteen, as 1 to 10; at twenty, as 1 to 9; at twenty-five and thirty, as 1 to 6; at sixty, as 1 to 3; at eighty years of age, as 1 to $\frac{1}{2}$ or $\frac{1}{4}$. Thus, the young man has in reserve for violent exertion an immense respiratory faculty, while the aged person is quickly "winded."—The respiratory faculty is gradually worn out by the laceration of the capillary aerian and sanguineous canals; this laceration occurs, in a greater or lesser degree, in all powerful respiratory efforts. It begins at an early period, and increases gradually to old age, as a simple consequence of repetition of the respiratory act. It is increased by all diseases of the lungs. In its most aggravated form this state of the lung causes a circulation of imperfectly oxygenated blood, and reduces the decrepid octogenarian to the locular lung and imperfect respiration of the reptile.

* The *litre* is 1.760 of an English pint.

ADMINISTRATION OF MURIATE OF MORPHINE BY THE ENDERMIC METHOD IN NEURALGIA AND SCIATICA.—M. Rougier, of Lyons, speaks in the highest terms of the beneficial effects derived from this remedial agent in the above complaints. He commences by denuding the skin over the course of the affected nerve of its epidermis. For this purpose he employs an iron, heated in boiling water, which is to be left for an instant on the surface and then quickly withdrawn; the part afterwards being gently rubbed with a piece of linen rag. This mode of proceeding is preferable to ordinary blisters, inasmuch as it causes less pain, never fails in producing its effect, is more prompt,and produces less suppuration, thus favouring the absorption of the medicine. The hydrochlorate, which, according to M. Rougier, is the most soluble salt of morphine, is then applied upon the surface, having previously moistened it with a drop of water. M. Rougier usually commences with a grain and a half, which he increases by a grain, every second day, according to the susceptibility of the patient. He states that minute doses have little or no effect, and that it is necessary to saturate the constitution, as it were, before any good effect will be induced. The symptoms announcing this condition are, headache, somnolency, nausea with or without vomiting, dysuria, heat of skin, perspiration, itching of the skin, &c. M. Rougier states that he has sometimes carried the dose as high as 12 grains, in which case he creates a greater number of absorbent surfaces, so as to correspond in some measure to the quantity of medicine to be introduced into the economy. In ordinary cases, or where the disease is recent or simple, the pain is generally checked at the second or third application; but in disease of long standing, the cure is generally more tedious. M. Rougier states that he has applied from 30 to 50 blisters successively in the same patient. The surface is to be dressed but once a day, a plan which thus allows the individual, at the expiration of a few hours, to go about his usual business. The pain once removed, the remedy is to be continued for a few days in decreasing doses. A sense of weakness and prickling are frequently felt for a long time along the course of the nerve, owing both to the long continued disease, as well as the action of the morphine, which has in some measure paralysed the sensibility of the nerve.

Abscess in the Uterine Parietes communicating with the Rectum.—A lady who enjoyed good health up to her thirty-seventh year, when she married, was soon afterwards attacked with acute deep-seated pain in the hypogastric region, radiating to all parts of the pelvis, and increased by micturition and defecation. It was accompanied by the usual symptoms of inflammation of the uterus. Although the attack was relieved by the treatment adopted, it was not removed, and when an examination per vaginam was instituted, the uterus was found lower in the vagina than usual, with morbid enlargement more especially of the posterior paries, and the os and cervix uteri were painful to the touch and tumid. Between three and four months after the invasion of the malady, about half an ounce of pus suddenly escaped from the rectum, with immediate relief. Persistent diarrhœa with discharge of more or less purulent matter now set in, the patient observing that when the pus was not discharged as freely as usual the local pain was aggravated. All this while menstruation was very irregular, and attended with much pain in the loins and discharge of coagula. Profuse menorrhagia next set in, the uterine pain became exceedingly severe, attended with a relapse of the previous symptoms, to which was superadded a neuralgic condition of the genital organs, the slightest pressure upon which produced extreme suffering. The patient gradually sunk exhausted.—A post-mortem examination was made twenty-four hours after death. On laying open the abdomen, the omentum, small intestines, and all the pelvic viscera were found agglomerated together by peritoneal adhesions of old date. On raising the uterus it was seen to be firmly attached by its upper and posterior portion to the rectum; it presented an irregular form, having the fundus enlarged to about thrice its natural size. A longitudinal section showed the enlargement to have been produced by an abscess seated in the substance of the wall of the fundus uteri, the cavity of which contained about an ounce of dark thick pus: the walls of the abscess varied in thickness from one to three-fourths of an inch, the thinnest portion being nearest to the cavity of the uterus. A communication by means of a short sinus could be traced passing from the cavity of the abscess to the adhering portion of the rectum, and opening into that intestine by an aperture sufficiently large to admit of the passage of a thick probe, and evidently of old formation. No communication existed between the uterine cavity and that of the abscess. The os and cervix uteri did not present any evidence of malignant disease. The Fallopian tubes and ovaries were adherent to the uterus, and could with difficulty be distinguished. The uterus had never been impregnated.

Researches on Electro-Puncture.—M. Schuster gives the following conclusions as the result of his experience on this subject:—1. Galvanic electricity, introduced by means of acupuncture into the substance of the affected tissues, is the most powerful, as well as the most harmless, stimulant and resolvent agent that we possess. 2. The resolvent action of electricity is exercised with so much more energy and promptitude, as it is seconded by a more marked causticity and power of decomposition. 3. The action of electricity upon living tissues has only its full effect so far as we introduce, by means of the metallic points or needles, this fluid into the substance of the parts, the structure or vitality of which is to be modified, and upon using due care, on the one hand, to proportion the intensity of the currents to that of the effects to be produced, and on the other, to alternate, where necessary, the action of a *continuous current* with that of an *interrupted* or *broken current*. 4. Electro-puncture will generally be successful in those affections, in which we wish to stimulate the diminished or destroyed sensibility or contractility, to attack the enervated or perverted conditions of vitality, to cause the reabsorption, or evacuation, of effused or accumulated matters, to decompose or destroy morbid productions, to obtain adhesions, and lastly, to coagulate the blood.

ROYAL COLLEGE OF SURGEONS, LONDON.

List of Gentlemen admitted Members on Friday, Feb. 24, 1843:—

A. P. Hamilton, C. P. Ring, W. Cantrell, J. S. Kirkman, T. H. Cooper, J. Currie, G. B. Irving, J. C. Robinson, J. J. Hely, E. C. Johnson, J. N. Morse, H. H. Price.

LAMPS for COMMON OIL.—Egyptian Hall, Piccadilly.—A. REEVE (late with S. Parker) is now SELLING the PATENT UNIVERSAL and PATENT ECONOMIC HOT OIL LAMPS, the only lamps that can be warranted to burn with common oil for ten hours without charring the cotton, giving a light equal to nine wax-candles, at the cost of about one halfpenny per hour. Also the PATENT OIL PURIFIER for preserving and purifying the common oil, and the PATENT STEAM FOUNTAIN COFFEE POT, the only coffee-maker now in use which extracts the pure aroma from the coffee, and in the prices of which A. B has made a considerable reduction. Also the Patent Argyll Lamps, for burning under the puncha protectors in India. Purified Southern Oil to burn in any lamps, 4s. per gallon. Lamps repaired and lent on hire. Pure Mocha Coffee in sealed canisters.

By Her Majesty's Royal Letters Patent.

A. ELAM AND BROTHERS,

403, Oxford Street, London,

Inventors, Manufacturers, and Sole Patentees of the New Invented AERATED ELASTIC TRUSS & ELASTIC SPRING UTERUS SUPPORTER, for Prolapsus and Procedentia Uteri, or Falling of the Womb, and for Prolapsus Ani, by external application.

MESSRS. ELAM BROTHERS beg, most respectfully to announce to the medical profession and the public in general, that their new invention continue to be patronized by the most eminent Surgeons in England, Ireland, Scotland, France, America, and many of the British Colonies, they have met with the most decided approbation of every person who has seen or employed them. Columns might be filled with testimonials were it necessary, but a mere trial, or even inspection, will convince any one of their great superiority to all other appliances.

FOR PROLAPSUS UTERI.

This most invaluable invention, invented and patented by Messrs. ELAM BROTHERS, is the only apparatus now in use whereby relief and comfort can be obtained in all bearing down sensations, in a great many instances performing a complete cure, where that is possible it does not interfere with dress, no inconvenience any part whatever, completely doing away with pessaries of all kinds, to which both surgeons and patients have such well founded objections. It is perfectly light and elastic, always keeping its position in every motion of the body. A trial is all that is necessary to test the apparatus.

FOR PROLAPSUS ANI.

This invention is the most complete ever known, giving instant relief, and may be applied either externally or internally. It has never yet failed where it has been applied to give relief and comfort, and is the only apparatus recommended by the Faculty.

RUPTURE.

Persons afflicted with this complaint, to which all ages are liable, may now meet with relief and comfort by ELAM'S NEW PATENTED PATENT TRUSS, to which E. B. wish most especially to solicit attention. 1st. The pressure is constant, agreeable, immovable, and invariable, under all circumstances and positions, this results from the peculiar elasticity and continued softness, over which perspiration has no effect. 2d. The truss is so anatomically constructed and so adapted to the part affected, and from the delightful softness and pressing itself agreeably into the orifice, it forms as it were, an irresistible obstruction on the surrounding parts, thereby totally preventing any escape, even under the most violent exertion. A mere trial is all that is required to test this invaluable discovery.

Messrs. ELAM BROTHERS beg also to solicit the patronage of the public for their superior Bandages, which they are now making upon the most improved principle. The following is a list.

ELASTIC LACED STOCKINGS, for Swelled Varicose Veins.
ELASTIC SOCKS, for ditto.
ELASTIC KNEE-CAPS, for ditto.
ELASTIC BELTS, for Lumbago.
GENTLEMEN'S RIDING BELTS.
ELASTIC ABDOMINAL BELTS, for the Support of the Abdomen during Pregnancy.
ELAM'S NEW INVENTED ÆRATED TRUSSES, for Rupture, Single and Double.
ELAM'S ditto UNIVERSAL for Femoral Hernia.
COLE'S expired Patent.
SALMON & ODY'S ditto.
SINGLE and DOUBLE, COMMON.
ELAM'S PATENT SPRING ELASTIC UTERUS ABDOMINAL SUPPORTER.
SPINAL INSTRUMENTS, for the Curvature of the Spine.
ELASTIC SUSPENSOR BANDAGES, with Silk and Cotton-net BAGS.
DUMB BELLS.
CORSETTS, upon Improved Principles.
ARTIFICIAL LEGS made to Order, and Warranted for Six Months, upon an Improved Principle, without Springs.
ARTIFICIAL HANDS and ARMS, ditto.
SPRING CRUTCHES of every description.
MACHINES for DEFORMITY of the HUMAN FRAME made upon improved principles.
BACK BOARDS.
LITTLE'S NIGHT BOOTS, for Tendon Achille.
LEG IRONS.
LISTON'S FRACTURE APPARATUS.
ENEMAS, for SELF-INJECTION.
ELASTIC BANDAGING of every description.

The following is a Testimonial from a Gentleman who has tried, and witnessed the effects of the new Apparatus.

Russell Place, Nov. 1st, 1841.

GENTLEMEN,—It gives me great pleasure in informing you of the beneficial results derived from your Patent Apparatus, where every other mode of relief had been applied in vain. After submitting your apparatus, I applied it with great success. The patient, who for the space of two years had been confined to her room, is now enabled to go about with the greatest of ease and comfort, and can say, with much confidence, that it fully answers the purpose it was intended for, and gives great credit to the inventors, and superior to every other mode of relief and cure for Prolapsus Uteri.

I remain, Gentlemen,
Yours, respectfully,
To Elam Brothers, DR. DAVIS,
403, Oxford Street, London. Lecturer on Midwifery.

A Female in constant attendance, and Mrs. ELAM waits upon ladies at their own residence if preferred. Mr. ELAM waits upon parties either at home or within a few miles from Town.

Orders by post, with a remittance, punctually attended to.
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THE MARQUIS OF ANGLESEY'S IMPROVED ARTIFICIAL LEG.

Improved Artificial Arms
Improved Instrument for Division of Tendons
Extending Machine, for Contraction of Knee and Arm
Crutches of all kinds
Trusses of every description
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Exercising Swings, Reclining Planes, &c., for Distorted Spines
Invisible Spinal Machines
Boots for Weak Ankles and Contracted Legs
Elastic Lacing Stockings for Enlarged Veins, &c.
Elastic Knee Caps for Weak and Rheumatic Affections
Hunting Belts and Suspenders
Elastic Ankles Socks for sprained or Weak Ankles

Directions for Measuring, &c., will be forwarded to any part of the country to a sufficient as above.

DR. GREEN'S

SULPHUR, FUME, MEDICATED, AND VAPOUR BATHS,

40, GREAT MARLBOROUGH STREET.

FOR more than twenty years DR. GREEN,s attention has been directed to the remedial agency of Baths of different kinds upon the human body, and to the same length of time he has superintended an establishment for their due and proper administration.

Judiciously employed Fume and Vapour Baths are beyond all question invaluable, as principal or auxiliary means in the Treatment of many kinds of Chronic disease, particularly Rheumatism and Rheumatic Gout, Affections of the Skin, and Impaired Functions of the great Abdominal Viscera.

The Baths are accessible at all hours of the day to the public at large, and to members of the medical profession, with their patients, in cases where it is desirable that the medical attendant should witness and direct the administration of the Bath.

EASE AND COMFORT FOR TENDER FEET.

HALL & Co. Sole Patentees, Wellington-street, Strand, London. The PANNUS CORIUM, or LEATHER CLOTH BOOTS and SHOES—ease and comfort in walking, combined with durability, are the recommendations of these articles, they never draw the feet, and are softer, easier, lighter, and more elastic than any other Boots or Shoes. The SPRING BOOTS are much approved, they supersede lacing or buttoning, and are a great support to the ancle. Also, the much-improved PATENT INDIA RUBBER WATERPROOF GOLOSHES, and H. & Co.'s portable WATERPROOF DRESSES, for Gentlemen, 21s. the suit. LADIES' CARDINAL CLOAKS, 18s. they can be carried in the pocket with convenience.

DIGESTIVE BROWN BREAD.—JAMES TURNER begs to inform the nobility and gentry, that his days of Delivery at the West End are Monday, Wednesday, Friday, and Saturday. Turner's Digestive Brown Bread is strongly recommended by the faculty for its nutritious qualities. The purity of the meal from which it is manufactured, and the improved method of making it into bread, render it the easiest of digestion and the most nutritious bread in use. Turner's Superior Household Bread, Fancy Biscuits, Cakes, &c. Presburger Wine Biscuits, in tins at 2s. each. Families supplied within five miles of the Royal Exchange. Orders, post-paid to James Turner, Family Bread and Biscuit Baker, 17, Bridge-street, Walworth, and 4, Queen's-row, Dalston, will receive prompt attention.

ORIGINAL MEDICAL GLASS AND FIXTURE WAREHOUSE.

ANSELL AND HAWKE, of No. 8, Great Queen Street, Lincoln's Inn Fields, beg to inform Gentlemen commencing or altering in the above Profession, that they have a large assortment of Drawers, Bottles, Jars, and every requisite for completing Shops or Surgeries, on the most moderate terms. Most satisfactory references can be given as to style and quality. Plans and Estimates furnished, free of expense.

Valuation of Stock and Fixtures.

JEREMIE'S

SEDATIVE SOLUTION OF OPIUM,

First prepared at Patna, in Bengal.

THE great merit of this Preparation is its peculiar freedom from the noxious properties of Opium and has, therefore, been found available in cases where other forms have been inadmissible, from its not disturbing the nervous system. The rest procured through its instrumentality is divested of the heaviness and stupor usually the effect of Opium, and the patient, though taking it continuously, is left in free possession of his faculties. It has for several years been supplied to the H. C. Dispensary, by order of the Medical Board of Bengal, from its being found to arrest Cholera in India beyond any remedy that had been applied to that fatal disease. Captain Jeremie, from whose formula it is prepared, is well known to scientific persons as the talented improver of the Patna Opium. It will be found not to constipate the bowels, and to keep any time in any climate. It is exceedingly powerful in Cough, especially Consumptive Cough, wherein many have found it a great blessing, in Influenza, Gout, Tic Douloureux, Cholera, and Bowel Complaints, Rheumatism, and Cancers, in Accouchement, and all cases where Opium may be desirable. The exceedingly innoxious properties of the preparation have been proved by an intake of a few weeks old having taken it without any cerebral disturbance. The testimonials of many talented Gentlemen of the Profession are on the envelopes of the bottles, a few only of the names are given here of those who have approved, viz.—

Medical Board of Bengal.
Sir Phillip Crampton.
Sir David Dixon, Physician to the Royal Naval Hospital, Plymouth.
Dr. Cookworthy, Physician to Plymouth Dispensary.
Dr. Watson, Physician to Middlesex Hospital, London.
T. G. Perry, Surgeon, Foundling Hospital, London.
Dr. Rae, Royal Hospital, Chatham.
J. R. Martin, Esq., (late of Calcutta) Grosvenor-street, London.
Dr. Jackson, late Apothecary-General, Bengal.
Dr. Graves, Meath Hospital, Dublin.
Dr. Hannay, Professor of Physic, Glasgow, and Physician to the Royal Infirmary.
Dr. Yonge, Dr. Hingston, } South Devon Hospital.

Prepared only by Francis Leon, 27, George-street, Plymouth, whose signature is written in red ink, on the pound and half pound bottles, put up for dispensing, as well as on the envelopes of the bottles, sold at 2s. 9d., 4s. 6d., and 11s., accompanied by the stamp of Barclay and Sons, Farringdon-street, London, Wholesale Agents. Agents abroad.—Scott, Thompson, and Co., Calcutta, Binney and Co. Madras, Treacher and Co., Bombay, Menzies and Co., Jamaica; W. Blake, Montreal for the Canadas. Sold also by all respectable Druggists.

WRIGHT's PATENT DRAG.—The use of a drag to carriages being admitted, parties wishing for safety and relief to their horses have now an opportunity of having one on the most improved principle, such as has never been offered to the public before—the carriage being skidded or released at pleasure by the person driving without leaving his seat or stopping the vehicle.

All who are in the habit of driving must see the great benefit derived of unskidding the wheel before reaching the bottom of a hill, so that if another is to be ascended the velocity shall not be impeded, whereby time is saved and the horses relieved from the draught, as well as the danger avoided in backing the carriage, which must be done under any other system to relieve the skid.

An obvious saving is also effected, the great wear under all former plans being, when the skid is not required yet cannot be released.

Wright's Patent Drag has now been in use for the last two years, being fixed to the Rocket Ventnor Coach, travelling daily on one of the most hilly roads in the Isle of Wight, the journey from Ryde to Ventnor, thirteen miles, being performed in less time by half an hour than by the former mode of skidding, with much greater ease to the horses, and to the satisfaction of the proprietors as shown by their testimonial.

It can be applied without regard to the pace in case of accident, and may be accomplished by a child ten years of age.

Parties may be supplied with the apparatus complete, on applying at the Office of the Proprietor, No. 22, Church St., Soho, London.

To the Proprietor of WRIGHT'S PATENT DRAG. Royal Pier Hotel, Ryde. July 25th, 1842.

Sir, -Having had your drag in use on the Rocket Coach, running daily from Newport to this place and Ventnor and back, over one of the most hilly roads in the Isle of Wight, during the last two seasons, we express our satisfaction in its usefulness, affording a great relief to the horses, and a saving of time full half an hour between Ryde and Ventnor, a distance of thirteen miles, and feel assured your drag when known will be generally adopted.

We are, Sir,
GEORGE RENDALL,
WILLIAM LAMBERT, Coachman. } Proprietors.
JOHN WHITTINGTON, Coach Builder.
All letters prepaid.

BRITANNIA LIFE ASSURANCE COMPANY, 1, Princes Street, Bank, London.

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ON THE IMPROVEMENTS IN MATERIA MEDICA AND PHARMACY DURING THE PAST YEAR.

By John Foote, Esq., *Fellow of the Royal College of Surgeons in London, Fellow and Secretary of the Royal Medico-Botanical Society, Corresponding Member of the Pharmaceutical Society of Portugal, and of the Societe Industrielle at Angers.*

OPIUM

Is our most valued agent in the treatment of disease, and so freely has it been used, and so largely have its therapeutic powers been made available by the medical practitioner, that it may be thought impossible to discover another ailment in which it may be found of service. Nevertheless, several medical journals at home and on the continent have recently contained papers, and details of cases of strangulated hernia, which resisted the usual measures, including the taxis, but were readily reduced when the internal administration of opium or morphia, had been had recourse to, and the sufferer was brought fully under its influence; large doses of the anodyne were required. Mr. Lyell, of Newburgh, says, the rule should be to employ the morphia in half grain hourly or half hourly doses, until the patient is fairly narcotised. He gave his patient three grains of opium, and four and a half grains of the muriate of morphia, before he was able to reduce the rupture, and he ascertained by direct experiment that the drug he employed was really good. A similar result followed the use of belladonna injections in the hands of Dr. F. Fischer of Tambach. His cases, two in number, are recorded in *Schmidt's Jahrbucher*. In one instance, symptoms of narcotism were induced. Dr. Vigier, a physician at Amfreville, speaks of a case of strangulated inguinal hernia of the right side, in which failing reduction by manipulations, he employed ether irrigations, with the effect of lessening the pain and swelling, and inducing sleep. A second application a few hours afterwards acted again as an anodyne, and when the patient awoke, the rupture was reduced. Dr. Vigier states, that he did not have recourse to the taxis, after he had tried the ether, of which about 40 scruples were used altogether.

From the increase of intercourse between European medical men and the inhabitants of the Celestial Empire, we have been enabled to gather much interesting information with respect to the effects produced by the baneful practice of opium smoking, which appears to be almost wholly confined to the male sex. Mr. Smith states, that in Penang the opium smokers are the Chinese, the Malays, and a few of other nations, chiefly the native Portuguese. It is calculated that 10 per cent. of the Chinese, two and a half of the Malays, and about one per cent. of other natives are addicted to this vice. The drug is not used as imported, but is subjected, first to a process of solution in soft water; then of evaporation, re-solution, and re-evaporation, to free it from impurities. The watery extract thus prepared is called chandoo, and is twice the strength of crude opium. The dregs of the chandoo when smoked, are collected and made into pills for the poorer classes; these are called tye-chandoo. The Benares opium is chiefly used, but the Patna is preferred, because it has a finer flavour, is stronger, and its effects are more lasting. The smoker, when he commences his daily dose, is at first rendered loquacious and animated, but as the opium takes effect, the conversation drops, and is succeeded by repeated bursts of loud laughter; the next phase presents a vacancy of countenance with pallor and shrinking of the features, followed by deep sleep, lasting from half an hour to three or four. In this state the pulse is slower, softer, and smaller than before the debauch. The effects of this poison on the system are very severe, and it appears that the habit once fixed, is very rarely overcome—loss of the mental faculties. lassitude, and early impotence are produced by it. If habitual smokers are totally and suddenly deprived of their accustomed stimulus, death speedily follows in the train of a series of horrible symptoms. The only mode to avoid a fatal result, and break the chain of diseased habit, appears to be the use, in gradually diminishing doses, of a tincture made of tye chandoo with rice spirit. This preparation is only one-fourth the strength of the chandoo. Dr. M'Pherson, in his recent work on China, gives a nearly similar account of this habit. In the Montana district, in Peru, a practice prevails, which is thus described by Dr. Smith:—It bears some resemblance to the vice of which I have just spoken, but it is not so pernicious. The coca-leaf, when moderately used, comforts the stomach of the Indian, as good tea does that of the European, and acts in a peculiarly cordial manner. It enables those who use it in moderation, to endure a great deal of cold, wet, general fatigue, and even fasting, to a surprising degree, with apparent impunity. But though it in this way fortifies and supports nervous and muscular energy, and keeps up an agreeable exhilaration of spirits, when taken in excess, as is done by many of the coca-gatherers, who repair to the Montana to indulge in it freely, it is said to excite a species of reverie, which may be looked upon as a variety of mania. Those who are thus affected are always chewing the leaves, and retire to the solitude of the thicket, finding their joy in flying from the presence of their fellow-men, and indulging in silent contemplation, or rather in vague associations and trains of ideas, without exercising any rational control of thought, or feeling an interest in the ordinary concerns and duties of life. The remedy for this state is simply to return into society, and abandon the abuse of the coca-leaf.

INDIAN HEMP.

While thus calling attention to the effects of anodynes, it may be as well to mention that Mr. Ley has found the resinous extract of the Indian hemp a very powerful remedy in allaying muscular spasm and irritation. He gave it in doses of from one to three grains. Dr. O'Shaughnessy calls it an anti-convulsive remedy of the greatest value. Mr. Ley has found it, in full doses, produce a singular sensation of terror or fright, instead of the pleasant feeling of inebriation, of the most cheerful kind, described by authors

The Indian hemp (*Cannabis Indica*) appears to be identical, in all respects, with the European variety, (*Cannabis Sativa*) with the single exception, that the former plant contains a certain amount of resin, on which its narcotic and anti-convulsive powers depend, and which seems to be almost totally absent in the European plant. Mr. Ley stated at a recent meeting of the Royal Medico-Botanical Society, that he had collected some in the Regent's Park, and had obtained from it a tincture, and an alcholic extract; but found it contained only about one-tenth the quantity of resin yielded by the Indian plant, and, as he expected, he had found it comparatively inert. The hemp in question was gathered very late in the season, and was perhaps too old. The resin of the hemp is soluble in alcohol and ether, partially soluble in alcaline, insoluble in acid solutions; when pure, of a blackish grey color—hard at 90 deg.,—softens at higher temperatures, and fuses readily—soluble in the fixed, and in several volatile oils. Its odour is fragrant and narcotic, taste slightly warm, bitterish, and acrid. The Indian plant exhales a powerful narcotic odour, and the branches are glutinous to the touch with the resinous secretion, which is collected when the seed is formed, (as the plant is then in its greatest perfection,) and is sold under the name of *churus*, or the shoots from which the resin has *not* been collected, are cut, dried, and sold as *gunjah*. The churus is in general use as an intoxicating agent, from the farthermost confines of India to Algiers. If it be swallowed, almost invariably its inebriation is of the most cheerful kind, causing the persons to sing and dance, to eat food with great relish, and to seek aphrodisiac enjoyment. The intoxication lasts about three hours, when sleep follows. No nausea, nor sickness of the stomach supervenes, nor are the bowels at all affected: next day, there is slight giddiness, and much vascularity of the eyes, but no other symptom worth recording. Dr. O'Shaughnessy stated, with regard to the character of the intoxication produced by the churus, that apathy, or insouciance, was as often present as the feelings of pleasurable excitement; but he could not recollect a single instance in which that of alarm or terror had been occasioned by it. The effects of the resin are much modified in this country, and much less marked, possibly from the length of the voyage rendering the article deteriorated in value. The resinous extract prepared at Calcutta from the fresh plant, is the most valuable of all the preparations: next to that ranks the extract made from the gunjah immediately after it has been brought to this country, while a similar preparation made from the plant after it has been a length of time in England, is comparatively inert. From this circumstance we may conclude, that some portion of the virtues of hemp depends on the essential oil it contains. Dr. O'Shaughnessy says, that the gunjah yields to alcohol twenty per cent. of resinous extract, composed of the resin, (*churus*,) and green coloring matter (*chlorophylle*.) Distilled with a large quantity of water or spirit, traces of essential oil pass over, and the distilled liquor has the powerful narcotic odour of the plant.

Mr. Ley, in his essay, read before the Royal Medico-Botanical Society, draws a comparison between the effects produced by opium and those caused by the cannabis indica, the result of which induces him to give the preference to the latter, its influence being exerted more kindly and gratefully on the system. It has proved of service in cholera and rheumatism, but it is in spasmodic and convulsive diseases that it is most eminently useful. In tetanus it has been the means of cure in the majority of cases, and it has relieved much of the severity in hydrophobia, although it did not prevent the fatal termination. It is useful in chorea, spasmodic asthma, and delirium tremens, and generally wherever opium is indicated. In India it has produced catalepsy. Mr. Ley considers further, that it will prove a direct antidote, the first of its class, to the strychnia poisons, in which opinion he is confirmed by Dr. O'Shaughnessy, who experimented with it on dogs. Having ascertained by direct experiment the poisonous dose of the nux vomica bark on animals, he administered it to 6 dogs, following it in half an hour with a full dose of the resin. The dogs who did not get the resin died with all the symptoms characteristic of poisoning by nux vomica, and the others all escaped. Dr. O'Shaughnessy observes further, that a blister to the nape of the neck, leeches to the temple, and nauseating doses of tartar emetic, with saline purgatives, have rapidly dispelled the symptoms of an over-dose of the drug. Makrizi recommends oxymel and acids as its antidotes, and next to these, emetics, cold bathing, and sleep.

BELLADONNA.

The leaves of belladonna have been tried by Dr. Avoyne, of Batignolles, externally, for the relief of anomalous nervous pains with advantage. He cites several cases in which the pains were removed by the application of the poultice; and he attributes their cessation to the relaxation of the muscular fibres adjoining the suffering nerve. Dr. Delpage has found the internal use of the powder of the same leaf, in doses of five to ten grains, relieve the nervous cough which precedes consumption, and it has been also tried with benefit

in cases of sciatica and epilepsy. Dr. Debreyne, who has published a long communication upon the treatment of epilepsy, in the *Bulletin General de Therapeutique*, says he has tried it in about two hundred cases, and there was scarcely one in which its use was not attended with advantageous results. It is, however, by no means a specific. Mr. Bulley, of Reading, has used the extract dissolved in water, in irrigation in cases of inflamed eyes, and he speaks favourably of its employment. When the liquid is first thrown on the eyes, the lids must be closed, but the patient soon gets accustomed to the shock, and the continued stream may afterwards be thrown upon the eye itself, without producing any disagreeable sensation. His essay is illustrated with cases.

IODINE

and its preparations may fairly claim the next place in our notice, from the very important therapeutic services they render to suffering humanity. In the various forms of scrofula, the iodide of potassium has long been found serviceable; more recently it has secured its reputation in the treatment of subacute and chronic rheumatism, periostitis, and secondary syphilis; and has still more lately been used with advantage in cases of dropsy after scarlatina, and in schirrus uteri. By some medical men it has been given in very large doses. Dr. Bouyer, of Marennes, has raised the quantity gradually, until he has given two drachms in the course of the day. He adds a small quantity of opium to prevent its injurious influence on the glandular system. Dr. Langevin, of Havre, has detailed several singular and interesting cases of secondary and tertiary syphilis, remarkable for the large quantities of the iodide he administered, and the rapidity with which he effected cures, even in cases of very long standing. He commenced with forty grains daily, and doubled and trebled the dose very soon, so that in the course of a fortnight after the commencement of the treatment, he gave eight scruples in the four-and-twenty hours. Chomel adds his testimony in favour of the remedy, but the doses he prescribed were more moderate. (*Bulletin general de Therapeutique.*) Dr. Ross, of Cambersmere, Sutherlandshire, has employed iodine and its compounds very freely as external applications. The tincture of iodine, undiluted, he has found serviceable in cases of obstinate ulcers, with large flabby granulations, and in ulcers of the tonsils and fauces, whether specific or non-specific. In these last named cases it is best used as a gargle. He does not speak very highly of its application over enlarged and indolent glands and buboes. He supports Mr. Martin's recommendation of the diluted tincture as an injection in hydrocele, but condemns its use in phthisis and bronchitis by inhalation, from having witnessed fearful bronchial irritation produced by it. In tinea, porrigo, impetigo, eczema, &c., he has found it very useful, after the hair has been cut close, and the head cleaned of the scabs. Dr. Graves, speaking of this application of iodine, says it will not do to apply it as is generally done with a camel's hair brush, for it must be strongly rubbed into each spot, for which purpose a small bit of sponge, covered with fine linen, and tied to the end of a quill, or slender stick, should be employed; the application should not be repeated more than once a week. Mr. Wilson recommends a liniment made with the iodide of sulphur and olive oil in cases of porrigo, in which he is supported by Dr. Davidson, of Glasgow. The iodide of zinc is advised as an application to the tonsils when enlarged, and the iodide of arsenic Dr. Ross has seen used in a case of lupus, with great success; he adds, there is not any cause to fear absorption of the arsenic. The use of the iodine injection has been extended by Velpeau to the treatment of serous cysts, which he penetrates and evacuates the contents, and then throws in a solution of iodine, which is retained for a few seconds and afterwards withdrawn. Slight inflammation comes on in a few days, and a cure is effected in five or six weeks. Very little pain is caused by the injection.

THE HYDRIODATE OF ARSENIC AND MERCURY.

Mr. Donovan, of Dublin, has introduced a mixture, holding in solution a compound salt, the hydriodate of arsenic, and mercury in the treatment of lupus, lepra, psoriasis, pytyriasis, sycosis, porrigo, impetigo, venereal eruptions, ephelis, &c. which has been tried very extensively by the profession, and has been reported on very favourably. Cases of inveterate psoriasis, in which arsenic, the iodide of potassium, sarsaparilla, mercurials, guaiacum, &c., had been directed unavailingly, yielded speedily under the administration of the iodide of arsenic and mercury. In the first case reported, that of a child nine years old, within ten days after the commencement of its use, the eruption began rapidly to decline upon the trunk, and the thick scales to loosen upon the extremities. In five weeks time all traces of the eruption, which was of two years' duration, had disappeared from the surface of the trunk, and only a few patches remained on the extremities. The mixture disagreeing now, its use was intermitted for a time, and the child sent into the country. On her return its exhibition was resumed, and in three weeks the patient was entirely cured. She was seen eight months afterwards, and had not had a relapse. This case, which was under the care of Dr. Osbrey, is one of particular interest, because the disease was of a very aggravated nature, and of considerable duration. The child had been previously under the care of several practitioners in London, but had not received any relief. The case is one of value in another respect, as it gives a warning against the unguarded and too protracted use of the salt, as emaciation, with loss of appetite and other symptoms, presented themselves while it was given, and ceased on its discontinuance. When first administered, it generally produces nausea and sickness. Dr. Osbrey has used it also in cases of button scurvy, syphilis, pytyriasis, and lichen urticatus. Messrs. Carmichael, Colles, Cusack, Sir H. Marsh, Dr. Graves, and Dr. Croker have also tried it in the cases for which it is recommended, and speak very highly of it. One drachm measure of the liquor of hydriodate of arsenic and mercury consists of one drachm of distilled water, one-eighth of a grain of arsenious acid, one-fourth of a grain of peroxide of mercury, and three-fourths of a grain of iodine in the state of hydriodic acid. It occasionally produces slight ptyalism, an effect not very astonishing when it is borne in mind that each of its three elements may cause that result. It sometimes at first causes disturbance of the stomach and bowels, and when, by continuance of its use, its effects are accumulated, it often affects the head. The dose of the mixture should be from fifteen minims to half a drachm, twice a day. Larger doses have been given, but it is not advisable. It cannot be too much impressed on prescribers that thay incur great risk of destroying its powers by mixing it with other articles, intended to modify its effects. It ought not to be conjoined with opium, nor with the salts of morphia. When opiates are necessary, they should not be administered at the same time with the arsenico-mercurial liquor, the best menstruum for which will be distilled water.

COD LIVER OIL.

The oils obtained from the livers of the cod and skate have been advised medicinally in scrofula, &c., and their virtues appear to depend on the iodine they contain. — The following method of ascertaining the presence of iodine in cod liver oil, is given in the *Journal de Chimie Medicale*. Four ounces at least of the oil to be examined are to be treated with an excess of liquor potassæ, moderately diluted. This is afterwards to be heated until the whole of the liquid is evaporated, care being taken that the temperature is not raised to the boiling point. Collect the residue of this evaporation, throw it, a small quantity at a time, into a large crucible, and proceed to carbonize it, taking the precaution, towards the end of the operation, to place a well-fitted cover over the crucible, so as to prevent the volatilization of the combination of iodine, which may be formed. The carbonized residue is now to be boiled several times with alcohol, after which, these solutions are to be mixed together, and evaporated nearly to dryness. Dissolve this product in a small quantity of distilled water, add a slight excess of sulphuric acid, and either carbonate of sulphur, or what is better, a little fresh starch, with one drop of solution of chloride of lime. In this manner the least trace of iodine may be discovered, and it will be found that the pure oil of cod's liver always contains a minute portion.

THE IODURET OF POTASSIUM.

M. Ricord, in a second communication on the effects produced by the ioduret of potassium, points out the pathogenic results from its administration in certain persons. He has found it cause eruptions of a psydraceous character, somewhat resembling the pustules of acne, but not confined to the places where that disease is located, the eruption occasionally simulating eczema, herpes, purpurea hæmorrhagica, rupia, or the varieties of erythema; gastralgia, ptyalism, diuresis, catarrho-œdematous ophthalmia, coryza, bronchitis, iodic intoxication, and blenorrhagia, have all been respectively induced by the use of the ioduret of potassium. Ricord observes, that for the removal of any of these affections thus induced, all that is required is to suspend the medicine for a time, or diminish the dose. He has as yet only met with six cases in which he was obliged finally to abandon the use of the remedy.

CLINKERS.

Mr. Conway Edwards, of Batheaston, has published an interesting communication on the medicinal use of clinkers, the refuse ot the blacksmiths' forge. It differs from common ashes and coke in its greater specific gravity, component parts, and external appearance. It appears to possess tonic, stimulant, and anthelmintic properties, and is of essential service in chlorotic and dyspeptic cases. Its use is contra-indicated where an inflammatory diathesis prevails. The quantity of metal which clinkers contain, varies considerably: the best is obtained from a blacksmith's forge, and the most ponderous, darkest, and most metallic in appearance, should be selected. The light slate-coloured clinker is inert. It is prepared for medicinal use by pulverizing it, and mixing it with treacle and honey: to every eight ounces of this mass, which should be of the consistence of stiff paste, half an ounce of magnesia, and the same quantity of ginger, must be added. The dose is a tea-spoonful twice a-day for three days; then an interval of three days, and a repetition of the medicine for the same period. The first dose is apt to cause a sensation of a great weight in the epigastric region, with a feeling of burning, followed by sickness and fainting, which is relieved by eructation of flatus. Some complain of pains in the limbs, and particularly the joints; others, of tightness across the forehead, with giddiness; while all are troubled with heat, dryness of the mouth, and great thirst. At the second dose, the symptoms are moderated; and the third is generally taken with impunity. After it has been persevered in for some time, sensations of a different character arise. These are, hunger, and a feeling of health and energy, to which, perhaps, the patient has been a stranger for years. Then the complexion, if pale, commonly receives a ruddy tint, and the muscular fibre becomes firm and enlarges. After the first dose, the fæces are like pitch—the urine generally pale and large in quantity—the bowels, if previously costive, become regular in their action—the pulse gets full, and the skin pleasantly relaxed.

CHALYBEATE SALTS.

Mr. Bullock has lately introduced the citrate, ammonio-citrate, and lactate of iron, chalybeate salts, which were first prepared by M. Béral, as useful, more scientific, and more pleasing preparations of iron than those in ordinary use. They have been employed by many members of the profession, who speak highly of them in those cases where a chalybeate is required.

PHLORIDZINE AND CINCHOVINE.

By the aid of chemistry we have obtained two vegetable alcaloids, considered to possess tonic and anti-febrifuge properties. One of these, phloridzine, is obtained from the bark of the root of the apple and wild-cherry trees, as follows:—The bark of the recent roots is boiled with water sufficient to cover them, for half an hour. This is poured off, and the same quantity is again used. The two decoctions are mingled together, and at the end of six hours they deposit the phloridzine

in the form of a deep red velvety-looking matter. M. Lebaudey, the Editor of the *Journal de Connaissances Medico-Chirurgicales*, says, its efficacy is so decided, that we cannot hesitate to class it with the most powerful febrifuges; and it has this advantage over quina, that it never induces gastralgia. The other alcaloid is the cinchovine, which has been discovered by M. Manzini, in the quinquina jaen of commerce, the white bark of Condamine, the cinchona ovata of Peru. Its preparation is precisely the same as that of quina. It exists in the form of prismatic, elongated, white, and inodorous crystals, having a bitter taste which is not at first perceptible, as is is not very soluble in water. It presents the characteristics of an alcaloid: it forms salts with dilute acids, which are very soluble in alcohol, and is precipitated from its solution by alcalies and their carbonates, the ioduret of potassium, the bi-chloride of platina, the chloruret of gold, and other metallic chlorurets. Ammonia also causes a precipitation; but if the volatile alcali be at all in excess, a portion of the cinchovine is re-dissolved. Its atomic composition is—carbon 26, hydrogen 54, nitrogen 4, oxygen 8. (*Revue Medicale.*)

QUINA.

Dr. Lugeol, of the Havannah, has signalized an interesting fact occurring from the internal exhibition of large doses of quina: it has in many cases caused deafness, which has continued for two or three days. His statement has been confirmed by other physicians, and a case of permanent deafness has never been induced by it. The sulphate has been recently tried to a very great extent, and in enormous doses in Paris in the treatment of acute rheumatism and of typhoid fever. Several cases are recorded where the patients recovered; but others again have been published, from which it is clear that the unfortunate sufferers died from the poisonous effects of the overdose of quina, of quininism in fact. Dr. Meirieu of Saint Gilles, recommends as a substitute for the simple sulphate of quinine in the treatment of disease, a mixture containing that salt in solution, and charged with an excess of carbonic acid gas. He considers that the quina is rendered more soluble, acts with greater energy, and in a smaller dose. (*Bulletin de Therapeutique*) Other compounds of the alcaloid of the cinchona have been introduced into notice by Prince Lucien Bonaparte, under the title of the lactate and valerianate, and are said to have been found serviceable in practice, but cannot come into general use on account of their high price.

ARTEMESIA ABSINTHIUM.

Dr. H. Coulton has strongly recommended certain preparations of the artemesia absinthium, the plant being a grateful bitter and tonic. It has had numerous medicinal properties attributed to it, the chief of which are antiseptic, anthelmintic, deobstruent, tonic and stomachic. An infusion made with half a drachm of the dried herb (freed from the stalk) and ten ounces of boiling water, allowed to stand for an hour, will produce an infusion of sufficient strength: the dose, an ounce and a half three times a day. The tincture is superior to any other preparation, and is made in the following manner:—Take two ounces of the dried herbs, free from the stalk, and 16 ounces of rectified spirits; macerate 12 days, and strain. This has a most beautiful green colour, but fades on keeping, and it possesses the full aroma of the plant, and the bitter flavour in a high degree: 10 or 15 minims will impart a strong flavour to two ounces of water, and form a good stomachic draught. Wormwood is an aromatic tonic, well suited to various cases of chronic disease, in which it is desirable to support the tone of the stomach. Where debility of the digestive organs has been the chief feature of the disease, its adaptation has been evident, from the happy results that have followed its administration.

NITRATE OF SILVER.

A great objection to the use of the nitrate of silver internally, for any length of time, has been the discolouration of the skin which is in general caused by it, and which has hitherto unfortunately proved to be permanent. Dr. Patterson, of the Rathkeale Infirmary, has made this a subject of inquiry, and has published his experiments. He does not believe the nitrate reaches the stomach undecomposed, but is inclined to believe that ere it enters that viscus, it is changed into the chloride; and the discolouration he attributes to the decomposition of the chloride of silver circulating in the cutaneous tissue through the chemical action of the sun's light, and the deposition there of its metallic basis in a state of extreme disaggregation. All persons are not subject to this accident, for the influence of the sun's rays can only be effective in those cases where the cutis is more than ordinarily vascular, and is clothed with transparent cuticle. To avoid this discolouration, and yet receive the full advantage of the tonic powers of the silver, Dr. Patterson advises the employment of the ioduret, which is uninfluenced by the sun-light. It is easily prepared, by adding to a solution of the nitrate, in distilled water, a solution of hydriodate of potash in atomic proportions. If 164 grains, or one proportional of ioduret of potassium, be dissolved in two or three ounces of distilled water, and 172 grains, or one proportional of nitrate of the oxide of silver, be dissolved in two or three other ounces of distilled water—on mixing the solutions, 234 grains, or one proportional of ioduret of silver, are precipitated. The whole is then to be thrown on a filter, and the ioduret of silver should be washed with repeated effusions of rain or distilled water, and then dried in the sun or before a fire. If the ioduret of silver, so formed, be in the slightest degree contaminated with any nitrate remaining undecomposed, it will be liable to discolouration. It is, therefore, best to use the ioduret of potassium in very slight excess, and, for facility of practice, equal weights of each salt may be employed. Ioduret of silver, thus prepared, is a soft, rich looking, granular powder, having the beautiful pale greenish yellow color of the canary bird. It has neither taste nor smell, and is insoluble in water; it resists the action of the diluted nitric, hydrochloric, and acetic acids, of the alcaline subcarbonates, and of hydrochlorate of soda; it is very sparingly soluble in solution of hydriodate of potash. Dr. Patterson has found the stain caused on the skin by the external application of nitrate of silver removed by a solution of the hydriodate of potash, and has further ascertained, that nascent iodine will discharge the writing of indelible marking ink, made with the nitrate, and thence concludes, somewhat too hastily, that the discoloration from the deposition of the silver in the skin may be removed by the internal and external employment of suitable preparations of iodine, forgetting the impossibility of applying his remedies directly to the rete mucosum, where the oxide or metallic silver is deposited, and also not taking into account, that although the iodine may influence the stains caused by the nitrate, it does not follow that a similar effect will be produced on the reduced metal.

STYPTIC WATER OF BROCCHIERI.

The styptic water of brocchieri, which is said to be an excellent application in cases of hæmorrhage, has been imitated by Dr. Pereira, of Bourdeaux, who distills a water from the fresh wood of the pine, possessing all the virtues of the water of brocchieri. It is prepared as follows:—Ten proportions of the fresh wood of the pine, sawn into small thin pieces, and bruised in an iron mortar, are put into a flask with twenty proportions of water, and macerated for twelve hours; the liquid is then to be distilled until ten proportions have passed over. The liquid thus obtained is to be put into a larger vessel, and allowed to remain for twenty-four hours, when the essential oil which floats on the top is to be removed. When this has been done, the vessel is to be well shaken, and the styptic water is prepared. It is somewhat opaque, and has a smell of turpentine. It ought to be well shaken before it is used.—(*Journal de Medecine et de Chirurgie Pratique*). M. Dumas, of Montpellier, has published several cases of uterine hæmorrhage occurring during pregnancy, which he has arrested by the internal exhibition of tannin, either in the form of pill, draught, or injection. (*Journal de Medicine et Chirurgie Pratique*) and Dr. Lüdiche mentions a case where it evidently acted as an antidote to strychnia.—(*Medicinische Zeitung*).—Another styptic, the South American plant *matico* has been found a useful application. Dr. Monro, of Dundee, has employed it in three cases. The feeling produced by the leaf, when applied to the bleeding surface, is one of increased heat and throbbing, continuing for about five minutes, and then ceasing. He adds that he cannot doubt but that the matico has most decided styptic qualities, and may become a very valuable addition to our materia medica. The tincture of catechu spoken of as a valuable remedy in the sore nipple of puerperal females, when the inflammatory symptoms are abated. Much contradictory evidence has been offered on the subject, but it appears from the great mass of testimony that it is most useful in sloughing from want of tone. Fissures in and about the rectum have been cured in many instances by the use of enemata, containing the extract of rhatany. Protracted or obstinate cases have been cured in a comparatively speaking very short time by this remedy.—(*Bulletin general de Therapeutique.*) Dr. Burdach of Luckau describes a case where creosote acted as an astringent and styptic, in repressing spongy granulations, and arresting hæmorrhage with the most beneficial effects. (*Medicinische Zeitung.*) It has also been recommended in sea sickness and in neuralgia. It is used in the latter disease in the form of an ointment composed of ʒj. creosote to ℥j of lard. This is to be applied three times a day to the part affected.

SECALE CORNUTUM.

M. Payan, a celebrated surgeon at Aix, has employed the secale cornutum in the treatment of paraplegia, dependant on defective action of the spinal cord, without alteration in its structure. He has published three cases in the *Journal de Pharmacie*, illustrative of its efficacy. He believes the secale cornutum acts primarily and especially on the spinal cord. Mr. Quekett attributes the presence of the spur in rye to a parasitic fungus, and he thinks that the absorption of the sporules of the fungus by the fibres of the root of the germinating grain, will be found to be the true cause of this singular production, and when they arrive at the grain, they convert it into the body known as the ergot. M. Bonjean de Chambery has discovered two principles in the secale, the one a yellowish acrid oil, soluble in cold ether and in boiling alcohol, which is highly poisonous, and the other an aqueous extract, of a brown colour, thick consistence, and musty smell, which possesses antihæmorrhagic properties. He has also found that ergot gathered the first day of its formation has not the poisonous properties it possesses on the 6th day, and further that when exposed to boiling heat, or the process of fermentation is excited, it loses its properties.—(*Journal de Chimie Medicale.*) Mr. Gore, of Limerick, recommends an aromatic ammoniacal tincture as the best mode of administering the ergot in cases of inertia uteri. Dr. Wright has used the oil obtained by means of ether in the dose of from twenty to fifty drops combined with a little aromatic tincture, and he states that he has found it particularly efficacious in all cases in which the spur itself would have been serviceable. He considers it more certain and rapid in its effects, more easy of administration, and less disagreeable than either the infusion or the substance. He has used it externally in cases of rheumatism, he recommends it as a substitute for creosote in the treatment of tooth-ache, and has employed it with success in epistaxis and other hæmorrhages. M. Blanc, of Aix-les-Bains, has used the aqueous extract in a case of abundant and obstinate hæmorrhage with excellent effect; he gave from ten grains to a scruple in the course of the day. M. Bonjean de Chambery thinks it applicable in cases of hæmorrhage whether simple or puerperal—(*Journal de Chimie Medicale.*) A singular case is recorded in the supplementary number of the *Gaz. des Hopitaux* for October last. An unmarried woman, 40 years of age, was affected with cancer uteri, attended with hæmorrhage, to arrest which her medical attendant prescribed the secale in the form of pills, giving from thirty to forty grains in the twenty-four hours. These pills were taken for several successive days, their use intermitted when the hæmorrhage diminished, and resumed on its reaugmentation. In the space of thirty-six days four drachms had been taken; the patient was

then seized with violent vomiting, and the whole of the vaginal mucous membrane appeared of a slaty, grey colour, and exhaling a characteristic odor. The membrane came away in shreds at the end of about eight days, but when the cure had proceeded thus far, a sudden attack of hæmorrhage carried off the patient.

BENZOIC ACID.

Mr. Alexander Ure, in a communication on gouty concretions, published in the last volume but one of the *Medico-Chirurgical Transactions*, states that the most unequivocal proofs have been afforded him of the efficacy of benzoic acid in correcting and removing certain disordered states of the urine in individuals prone to attacks of gravel. Dr. Walker of Huddersfield published an account of the advantage he had derived from the use of benzoic acid, combined with balsam of copaiba, in certain affections of the urinary organs. These united statements induced Mr. Soden, of Bath, to give it a trial in certain cases of irritable bladder which came under his notice, and he has every reason to be satisfied with the result. He details five cases, one occurring in private practice, and the rest in the hospital, in all of which almost immediate benefit followed. He prescribed it, combined with the balsam of copaiba, according to Dr. Walker's plan, but he says it is very desirable to ascertain the effect of the benzoic acid alone in similar cases, more particularly as the balsam is apt to disagree with delicate stomachs. This he promises to do in future cases. The most remarkable circumstance connected with the exhibition of this compound medicine is, its decided efficacy in diminishing, and in some instances, completely suppressing the muco-purulent deposition in the urine, which is so prominent a symptom in most cases of affections of the bladder. An important fact is stated by Mr. A. Ure, that during the administration of benzoic acid, the uric acid disappears from the urine, its place being supplied by hippuric acid, into which, he thinks, it is converted by the action of the benzoic acid. Mr. Garrod confirms the discovery of the hippuric acid in the urine, after the administration of benzoic acid; but he adds, that he has also found a trace of uric acid. M. Bouchardat, the principal pharmacien at the Hotel Dieu, however, gave a patient, whose urine deposited uric acid freely, a scruple of benzoic acid in eau sucrée; the sole effect of which was, that the uric acid was rendered soluble, but not changed into hippuric acid. The experiment was repeated three successive days, each time with the same result.—(*Journal des Connaissances Medicales.*)

Mr. Garrod has suggested a very ingenious theory for explaining the manner in which the benzoic acid is converted into the hippuric. According to this theory one equivalent of lactate of urea, minus two equivalents of water, give the requisite elements for the conversion of two equivalents of benzoic acid into two equivalents of hippuric acid. The following formula will express this more clearly.

Benzoic acid (2 equiv.) . .	C 28	H.10	O.6	
Lactate of urea (1 equiv.).	C. 8	H. 8	O.6	N.2
	C.36	H.18	O.12	N.2
Minus		H. 2	O. 2.2	eqv.
	C.36	H.16	O.10	N.2
= Hippuric acid (2 equiv.)	C.36	H.16	O.10	N 2

This explanation, however, Mr. Ure does not admit, and he mentions, to disprove it, that having swallowed a scruple of cinnamic acid, the presence of the hippuric acid in the urine resulted, and if we apply the arithmetical formula to this fact, substituting the cinnamic for the benzoic acid, we obtain a result wholly incompatible with this hypothesis; for two equivalents of cinnamic acid + one of lactate of urea, — two of water will give C.44 H.20 O.10 N.2, while two equivalents of hippuric acid give C.36 H.16 O10 N.2, leaving C.8 H.4 to be accounted for. Mr. Ure, as I have already said, is of opinion that the uric acid, and not the benzoic, is converted into the hippuric, but as early as 1831 Professor Wöhler believed that benzoic acid, during digestion, was probably changed into hippuric, and his opinion has been since confirmed by the experiments of M. Keller, who, having taken thirty-two grains of benzoic acid, obtained a proportionate quantity of hippuric acid from the urine, the fluid also containing its chief ingredients, urea and uric acid, apparently in the same proportion as in the normal urine. The hippuric acid existed in the fluid in combination with a base. M. Keller, speaking of the application of the benzoic acid as a remedy for the gouty and calculous concretions of uric acid concludes as a consequence of his experiments, that Mr. Ure was too hasty in advising it, and he adds that as his observations were made on a gouty patient, it may be supposed that the urine, even without the internal use of benzoic acid, would have been found not to contain any uric acid. The question, however, is still *sub judice.* (*Annalen der Chemie und Pharmacie.*) While on this subject I may mention that, to obtain benzoic acid very pure, and free from empyreumatic smell, M. Jaussens directs one part of the benzoic acid of commerce to be mixed with eight parts of distilled water, an excess of solution of ammonia added, and the solution of benzoate of ammonia thus formed, to be treated with purified animal charcoal. He then orders the solution to be filtered, and decomposed with hydrochloric acid, when the benzoic acid will be separated in beautifully white flakes. These flakes, thrown on to a filter, and washed several times with distilled water, are afterwards to be drained, and then dissolved in a sufficient quantity of alcohol. The alcoholic solution is to be filtered, and then diluted with distilled water, so as to precipitate the benzoic acid, which is but sparingly soluble in that liquid. By this means, the essential oil, to the presence of which in the ordinary flowers of benzoin, their peculiar smell is due, is retained in solution in the alcoholic liquor. It only remains to crystallize or sublime the precipitated acid, to obtain it in a state of great purity and beauty. (*Archives de Medicine Belges*).

CUBEBS.

On giving cubebs internally, we remark that shortly after its reception in the stomach, the urine becomes impregnated with a very marked odour of the volatile oil, showing that the essential oil contained in the piper passes rapidly through the digestive tube into the urine. The knowledge of this fact led M. Piorry to think that this medicine acted locally in the treatment of gonorrhea, by exercising through the medium of the urine a topical action upon the canal, and that consequently the best mode of administering the cubebs will be that which keeps the urine constantly charged therewith. Acting upon this opinion, M. Piorry gives his patients a bolus containing a scruple of cubebs every hour, or about an ounce in the course of the day. He has thus cured several cases in four or five days, and in one instance, where the complaint was of two months' standing, it was removed in forty-eight hours. The plan pursued for women consists in throwing an injection, made by infusing half an ounce of cubebs in a pint of water, into the vagina every hour.

Two very interesting cases of poisoning by cubebs, one of which terminated fatally, have been recently placed on record. They occurred at Valparaiso, and it seems that the patients in both cases, after taking cubebs for some time, changed their druggists, and obtained the drug from another party, both sending to the same house. The dose taken was half an ounce at bed time, and the next day they were found in a state of complete asphyxia. The symptoms presented in the case that terminated fatally were as follows:—the body in a state of supination; all the senses extinguished, without hearing, speech, or movement; the eyelids fallen, and when raised, the eyes look cloudy and fixed; the pupils dilated; extremities flexible; heat natural and equally diffused; face red; pulse slow, feeble, and very irregular, respiration hardly perceptible. On examination of the body after death, the viscera were found congested with black fluid blood, the entire venous system being quite gorged therewith; nowhere was there found any red or coagulated blood. The only explanation that can be given of such an occurrence, is that some poison was mixed with the cubebs, but it is said that they have been examined by two pharmaceutical chemists, who could not detect anything deleterious.

GURJUN BALSAM.

Dr. O'Shaughnessy, a gentleman of high chemical knowledge, to whom was entrusted the editing the Bengal Dispensatory, has introduced to our notice some indigenous remedies as substitutes for drugs in general use, which are only to be obtained from foreign countries. Among these is the gurjun balsam, the essential oil of which has been found to be nearly equal to the balsam of copaiba in the treatment of gonorrhea. Some obstinate cases of chronic gonorrhea and gleet, which had long resisted copaiba and cubebs, have been cured by this remedy. The balsam itself varies in consistence from that of thick honey to a light oily liquid. As found in the bazaar, it generally occurs as a brown oily, semi-transparent liquid, possessing a sp. grav. 0,962. It is totally insoluble in water, freely in warm alcohol, and with difficulty in ether. By distillation, from thirty-five to forty parts per hundred of essential oil are obtained, and a thick resin remains in the retort. The pure essential oil is transparent, and nearly colourless, of sp. grav. 0,934: it is soluble in alcohol, ether, naphtha, and the essential and fixed oils. It dissolves caoutchouc, copal, vateria resin, and solid gluten. Its savour is acrid, sweetish, and heavy, and its odour closely resembles that of the essential oil of copaiba. It is administered in the dose of 10 to 30 drops, three or more times in the day. It generally causes a sensation of warmth at the epigastrium, eructations, and sometimes slight purging, and it communicates a strong smell of turpentine to the urine, which it increases remarkably in quantity.

STORAX.

In France purified storax has been again tried on the plan of L'Heritier, as a substitute for copaiba. M. Lepage, of Gisors, recommends the following plan for purifying the storax. Liquid storax is insoluble in cold, but soluble in boiling alcohol. By introducing it into a retort with from two to two and a half parts of alcohol at 34 deg. and heating the mixture in the sand-bath until it boils, a turbid solution will be obtained, which, filtered rapidly, will deposit on cooling, a greenish fluid resin, almost transparent, and of a very powerful odour. If the operation be carried on speedily, and the liquid be divided so as to be filtered through different apparatus at the same time, the only residuum in the filter will be impurities without any resin; but if any turbid solution remain, it may be heated again with a little alcohol, and filtered while boiling. When the resin has been entirely separated, which requires about 12 hours, the alcohol may be recovered by distillation, and the storax must be heated in a sand-bath, to drive off the alcohol which may be combined with it. Thus purified, storax presents itself in the form of a greenish semi-transparent resin, of an agreeable odour, and the consistence of turpentine; it is soluble in ether in almost any proportion; alcohol at 40 deg. dissolves it rapidly, but it is little soluble in alcohol at 33 deg.: its alcoholic solution reddens test paper. It must be preserved in well stoppered bottles, kept full as much as possible, without which a superficial crystalline layer forms on the surface, the thickness of which augments gradually. For internal administration, it may be mixed with calcined magnesia and made into pills, or dissolved in alcohol, and then made into syrup with sugar and gum arabic, or else given in the form of mixture, rubbed down with the yolk of eggs.—(*Journal de Chemie Medicale*).

CRINUM ASIATICUM.

As a substitute for ipecacuanha, the fresh bulbs of the crinum asiaticum, a plant common in Bengal, and often cultivated in the gardens, have been found serviceable; indeed, it is said to be the only indigenous emetic plant met with abundantly, which does not produce griping, purging, or other distressing symptoms. From two to four drachms of the fresh root, bruised into a paste, and squeezed, will furnish a juice, which becomes emetic after a few minutes, and in smaller doses nauseant and diaphoretic. The dried sliced roots are efficient, but the dose must be doubled; the extract, whether aqueous or alcoholic, is uncertain in its se-

tion. The powdered seeds of the ipomæa cærulea in the dose of from 30 to 40 grains, act as a quick, safe, and pleasant cathartic. The alcoholic extract, which consists of resin and oil, is deep brown, ductile, of excellent pillular consistence, and keeps for several months. In ten grain doses it produces the effects of jalap with certainty and speed; the taste is scarcely perceptible.—(*Bengal Dispensatory.*)

OX-GALL.

Ox-gall has been introduced by Dr. Clay, the eminent surgeon of Manchester, as a valuable aperient, acting without causing any uneasiness, and giving a free and full pulpy motion. He thinks it directly dissolves the hardened fæces, and by that action alone renders them easier of propulsion, while, by the addition of bile, the constipation is directly overcome, and by charging the system with an extra quantity of healthy bilious secretion, its recurrence is prevented, giving time for improving the secreting powers of the liver, by other remedial measures. When it is necessary to employ opium, and it is wished to avoid the peculiar tendency of the drug to constipate the bowels, the effect is obtained by combining the inspissated ox-gall with it, which, at the same time, in no way impedes the action of the opium. The gall bladder of a moderately sized ox will afford as much extract as will make 100 pills of four grains each. It is an article both cheap and easy to procure, and deserves to be generally tried.

TALLICOONAH OIL.

Mr. Clarke the senior assistant surgeon to the colony of Sierra Leone, has published a communication on the Tallicoonah or Kenduh oil, which is used by the liberated Africans as an anthelmintic and cathartic. The best specimens are liquid, but it is more generally found concrete. The dose is from one to two ounces, thrown up as an enema. In over-doses, it produces the most violent hypercatharsis, cold sweats, and vomiting, succeeded by collapse; and, if remedial means are not promptly employed, even by death. Mr. Clarke says it is injurious in persons of a weak habit of body: but, to others, he can confidently recommend it as a safe and powerful anthelmintic.

BISULPHURET OF CARBON.

The bisulphuret of carbon has been employed in the treatment of diseases of the eye, by Dr. Turnbull. He says it is so volatile that the application of it to the eye, when the bottle is held in a warm hand for a few seconds, is as much as can be borne, in consequence of the intense pricking heat and flow of tears it occasions. He, therefore, directs the patient to close the eyelids during its use, deriving, he says, the same beneficial effect to the eye, without inconvenience to the patient. It generally contracts the pupil, and very seldom dilates it. He has used it in enlarged, indurated, lymphatic glands, and in deafness depending on a want of nervous energy, and deficiency of wax. The value of this remedy remains, however, to be ascertained, for, unfortunately, the authority on which it is brought forward is so slight, the reasoning so inconsequent, and the communication itself so imperfect in its details, that no reliance can be placed on the statement.

PRUSSIC ACID.

The vapour of prussic acid has been recommended by the same person, for the treatment of certain diseases of the eye, among which staphyloma has been especially particularized, without regard to the obvious fact, that as it consists essentially in a change of structure, it is physically impossible to effect a cure by any remedies, so as to restore the organ to its primitive condition. The statements that were made in recommending a remedy for such a purpose, would serve only to excite the ridicule of the profession, were they not promulgated by the non-medical portion of the press, which has unfortunately given them an injurious notoriety.

NEW REMEDIES FOR SKIN DISEASES.

I cannot conclude this summary without noticing cases. In two—one of psoriasis gyrata, and the other of lepra vulgaris—it failed. The remaining twelve were cured. Two were instances of lepra vulgaris the others of psoriasis. The remedy was applied in the form of ointment, made with two scruples of naphthaline to thirty of lard. When applied too strong, it causes a burning heat, which is soon removed by baths and poultices. It is apt to cause erysipelas, if not carefully watched. (*Bulletin Generale de Therapeutique.*)

Compounds of charcoal and potass, and of soot and potass, with or without sulphur, were introduced above two years since by Dr. Polya, under the barbarous, but significant, names of anthrokokali and fuligokali. He says, he has tried them with great success in cases of dartres, scrofula, chronic rheumatism, rheumatic enlargements of the joints, gouty concretions, and hydrarthosis. He administers two grains three or four times a day, mixed with liquorice powder, or the carbonate of magnesia. M. Gibert found them most useful as external applications. He tried them in eighty cases, all of which improved under the treatment, and several were cured. They possess discutient, detersive, and slightly stimulant properties.—(*Gazette des Hospitaux.*)

The chloride of zinc, introduced by M. Canquoin, and afterwards brought before the medical profession in England by Dr. Rioffrey and Mr. Ure, has been extensively tried by Dr. Byron, of the County of Meath Infirmary, in cases of lupus exidens, or cutaneous cancer. He prefers it to any other remedy but applies it differently to M. Canquoin, who directed it to be made into a paste with flour, lime, or some other substance. Dr. Byron uses it in substance directly, because, 1st., it is at once, and in the full enjoyment of its escharotic powers, brought into immediate contact with the diseased surface; 2nd, its re-application is regulated by existing circumstances; and, 3rd, no parts are subjected to its use, but those which seem to require it. Its power in speedily removing the painful corroding sensation experienced in the site of the ulcer is very remarkable. The sloughing condition of the sore also is soon changed into a more healthy state, and florid firm granulations spring up under its use. The pain occasioned by its application is exceedingly severe, and all the symptoms produced by it should be allowed to pass by, before it is re-applied. Some precaution is necessary in using this escharotic to the skin of the head and face in young subjects, for whom it should be employed in a diluted state

RECENT DISCOVERIES IN SCIENCE.

VENTILATION OF HOUSES.

Mr. A. Liddell, of Glasgow, read to the British Association, a paper on the Ventilation of Houses, which consists in drawing off the foul air from each room by a pipe leading to the chimney of a steam-engine, which has been attended with the most beneficial results as regards the health of the inmates, and particularly by a great diminution in the number of fever cases. The plan has been tried in the Glasgow Fever Hospital, in which the beds for fever patients, &c., were fitted up with the tubes for carrying away noxious effluvia. A similar plan for the ventilation of ships and steamers has been introduced by Dr. Reid, by leading tubes from the berths into a stove on deck, or in steamers, into the chimney. Mr. Liddell stated that the expense for a house of 60,000 cubic feet was only 40 lbs. of coal in twenty-four hours. Sir John Robison observed, that it was highly satisfactory to find sound principles in regard to ventilation making their way amongst the people of this country; but it was at the same time to be regretted that ineffective plans should be resorted to, when the very best plans had been many years before the public. The mode of ventilating the Derby Infirmary, devised by

DR. PAYERNE'S SECRET.

The Editor of the *Mechanic's Magazine* observes, "It is only to take down with you something that will absorb the carbonic acid gas as fast as you generate it, and something else (with a lucifer match or two to heat it,) from which you may set free oxygen enough to keep you alive. Doubtless, these are the main conditions of the experiment—and there are several well-known substances which do possess these two requisites. Pure potassa, for example, will absorb nearly half its weight, of carbonic acid gas; and chlorate of potass gives out, when heated, 39·15 parts per 100 of oxygen."

THE BUDE LIGHT IN MANCHESTER.

The Bazaar at Deansgate, Manchester, has lately been illuminated with Mr. Goldsworthy Gurney's patent Bude Light. The shop is 1280 feet in length and 48 feet wide, and contained formerly no fewer than 73 gas-lights, (12 of them argand burners), which have been displaced by *four* Bude Lights. Not only is this new light more intense and beautiful than that of ordinary gas, but it is so pure and white that it does not cast a false glare on colours. Thus, by it greens may be distinguished from blues at a considerable distance; and any small print can be more readily read by the Bude Light at a distance, than by the common gas light placed just above it. Each of the lights proceeds from three concentric rings of tubing, with numerous perforations, in which is burnt the gas supplied from the Manchester gas works; Mr. Gurney's patent consisting in an apparatus, attached to the meter, for purifying the gas by passing it through a chemical mixture; and iron tubing being substituted for that of lead. The consumption of the purified gas by the large centre light in the bazaar is 80 cubic feet per hour; each of the smaller ones consumes 45 cubic feet in the same time. —*Abridged from the Shrewsbury Chronicle.*

THE BOCCIUS LIGHT.

This invention, named after the patentee, Gottlieb Boccius, was first exhibited opposite Northumberland House, in the Strand, when its brilliancy excited considerable interest as to the means of its production.

In the specification, this new light is described as "certain improvements in the combustion of gas." The gas is supplied from a number of concentric rings, perforated with a vast number of small holes on their upper surfaces; that is, precisely the plan adopted by Mr. Gurney, in his Bude Light. Instead, however, of one chimney, as usual, Mr. Boccius applies, above the jet-holes of the burners, two or more concentric chimneys, or cylinders, in addition to and within the usual chimney of glass. The body of the burners may be of any suitable metal: but, for the upper surface, through which the jet-holes are pierced, the patentee uses the German silver soldered into it, "on account of the high temperature required for its fusion."—In constructing burners of two or more concentric rings, the patentee places the inner ring at a certain height above the outer one, or that next to it; thus to provide for the greater equality of the height of the several cylinders of flame in such burners, so that they shall terminate as exactly as possible at one and the same level, and all enter the central chimney altogether. He finds by this arrangement that the economy or luminous effect arising from the combustion of a given quantity of gas, is much increased; an effect which he attributes in great measure to the circumstance that nearly equal luminosity is obtained in the flames from each

lame, should be such that its top is just received within the lower edge of the innermost central chimney. "When this is the case the combustion will be found very perfect, and the light brilliantly white. No carbon will be deposited within any of the chimneys, and the light will be perfectly steady; the lower edge of the central chimneys defining the upper part of the light, so that the jagged or irregular edges and flickering so unpleasant to the eye in common gas-burners, does not exist, but the light appears of a permanent form, as a truncated section of a luminous cone."

The merit of this light has been much questioned. The Editor of the *Mechanics Magazine* observes: "Its novelty is of a strange sort: —whereas it has been generally considered advisable that the chimney of a lamp should cast as little shadow as possible, the second chimney of the Boccius lamp is made of solid metal, and casts a darker and deeper shadow than any we ever saw. Our present impression of this new wonder of the day is—that what is good in it is not new, and what is new is not good."—Dr. Ure, too, has pronounced the Boccius Light to to be a palpable imitation of the Bude Light.

THE NEW FRENCH LIGHT.

A French chemist of note has patented this improvement, both in France and England, through M. Charlieu, of Paris. Its main feature (which forms the subject of the latter part of the patent) consists in affixing to the centre of the burner an upright stem, or one stem to each hole of the burner. The liquid is conducted up to the burner by cotton yarn, and the flame keeps the stem hot; thus the liquid, as it comes up towards the burner, is volatilized, and the vapour to be consumed passes through the holes in the burner in a similar manner to gas. To light these burners, a hoop, surrounded with cotton or other fibrous substance, and provided with a stem, is employed. The hoop is dipped into some of the liquid and ignited, and then passed down over the burner below the upper part of the cotton yarn; by this means, vapour is quickly produced in the burner, and passing through the holes in the same, becomes ignited; the hoop is then removed, and the heat of the flame maintains the requisite supply of vapour.

This light combines all the advantages of gas, and also those of oil or tallow; for while, like the former, a constant and brilliant light is produced, and all difficulty and trouble of cleaning and trimming lamps are avoided, so, at the same time, all the advantages of portability and smallness of compass of the latter are retained. But one great feature of its superiority over both consists in an almost entire absence of smoke.

The liquid consists chiefly in distilling a mixture of some spirit, (naptha, for instance) and of some essential oil in certain proportions according to circumstances; generally of about twenty-three parts of essential oil, combined with seventy-seven parts of spirit of the strength of ninety-five degrees.—*Polytechnic Journal.*

UNFAIR GAS-METERS.

Mr. Flower, in a pamphlet on the gas-meter, proves in what manner it may be affected so as to show a false register of the quantity of gas consumed, to the great loss of the consumer, Thus:

"An undue quantity of water in a meter will make a difference of about twenty per cent. in the amount registered over the quantity actually consumed; but let the water in a meter consumer and to the companies, but more especial to the latter, who take good heed that the meter shall not and cannot give more than a nominal 1000 feet for the 1000 feet registered, which my experience shows to be not 900 for the 1000; but they leave their tenants to run the risk of defrauding themselves out of from one to twenty per cent. of gas as well. If, as the companies construct their meters, that too little water in them will occasion an impossibility of obtaining a supply of gas, why should they not be so guaged as to declare to the consumer, that if he has above a certain quantity of water in his meter he is registering water as well as gas?"

FEATS OF STRENGTH.

The following extraordinary Feats of Human Strength and Endurance are related in the *New York Courier and Inquirer*, to have been exhibited at the Bowery Theatre. It was announced in the bills that M. Paul was to resist the power of two of the strongest horses to be found in New York, for a wager of 1000 dollars. The animals selected to pull against him were a pair of large-sized Pensylvania-bred horses, which are in the daily habit of drawing from two to three tons of granite at a load, on an enormous truck. Paul, after firing a cannon weighing 400 lbs. from his shoulders, and ascending the fireman's rope, feet uppermost to the flies, by means of his hands alone, and performing other Herculean feats, placed himself horizontally upon a strong oak ladder, in order to make the grand effort. The horses were led on by their regular driver, and harnessed to a rope fastened to Paul's feet. To this rope were attached three broad ribands or girths, one of which was drawn tightly over his loins, and the others over his shoulders. The brace afforded by his feet against the step of the ladder, the power of the girths, and his hold with both hands upon the upper part of the ladder, constituted his only resistance to the immense power he had to contend against. Paul's body when thus disposed, resembled that of a malefactor upon the rack, preparatory to being torn to pieces. When the colossal horses were brought upon the stage, and attached to the feet of the intrepid performer, a sensation of horror seemed to pervade every part of the house. The word was given—the harness straightened—the ladder creaked and strained—the two ropes by which one end of it was secured to the stage stretched and threatened to break: the horses aided by a platform upon the stage, with cleets to brace their feet, strained every muscle and vein—the well known voice of the driver—the lash repeated again and again—all failed to force the enduring champion from his hold. The shouts of the audience, and the withdrawal of the horses, proclaimed his triumph! M. Paul attained his 18th year in March last.

THE IMPILIA BOOTS.

In the specification of the patentee (Mr. W. Baker, surgeon, of Grosvenor-street), the invention is stated to consist in a layer of horse or other strong curled hair (felt or matted together, with or without a layer of caoutchouc) between the inner and outer soles of shoes and boots. When a sole is to be composed of more than two thicknesses of leather, the patentee prefers that the layer of felted or matted hair should lie between the two upper pieces of leather. In some cases, in addition to the use of the layer of matted or felted hair, he applies a thin sheet of India rubber (caoutchouc) on the under surface of the matted hair, either by applying the solution of India rubber after it, or by placing a thin sheet of India

WARMTH OF THE SNOW BLANKET.

At the French Academy of Sciences (March 14) M. Arago read a communication on the warmth imparted to the earth by a covering of snow, and respecting which there has hitherto been much scepticism. M. Arago stated that M. Boussingault had ascertained the truth of the theory beyond the possibility of doubt, during the past winter. He found that a thermometer plunged in snow in the depth of a decimitre (about 4 inches) sometimes marked 9 degrees of heat greater than at the surface.

CREAM AND BUTTER.

The Viscount de Romanet, in treating on the phenomena presented in the transformation of cream into butter, states, from microscopic observation, that the cream consists of the globules of the milk, which rise to the surface from their lightness, and which contain the butter in the form of pulp, enveloped in a white, thin, and elastic pellicle. The action of the churn is, he says, nothing more than the rupture of the pellicle, and it is the fragments o this pellicle which whiten the liquid called butter-milk; the acidity which manifests itself in this liquid, at the instant when the butter is formed, is due to the immediate contact of the butter with the acid principles of the milk.

ELECTRIC GILDING.

Prince Louis Bonaparte has exhibited to the Scientific Congress at Florence (in 1841), some platina gilt by De la Rive's process, and observes that this metal takes the gilding better than silver. He explains this, on the one hand, by the greater density of the platina; and on the other, by the insoluble layer of chloride of silver, which must withstand the perfect gilding of silver.

THE TORPEDO.—GLOW WORM.

M. Zantedeschi has confirmed the experiments of M. Mattencei on the torpedo: he thinks that the nerves come from the dilatation of the medulla oblongata, which forms the fourth lobe with the grey matter covering it.—Mr. Morren has found phosphorus in glow-worms, as well as a system of prisms or transparent lenses above the luminous matter.

PROPERTIES OF GELATINE.

There has lately occurred in Paris a controversy on the use of the gelatine of bones for hospital soup, as recommended by D'Arcet; and the most contradictory opinions as to its qualities are daily published. Professor Liebig has, we think, decided this question. He has shown that gelatine cannot yield blood, and that by itself, therefore, it cannot support life. But he supposes that it is dissolved in the stomach, and being conveyed in the blood to every part of the body, acts as nutriment to the gelatinous membranes and bones alone. This ingenious idea explains both how gelatine mixed with other animal matter form a good diet, and how it is peculiarly adapted fo the sick and convalescent, in whom it acts by giving nutrition to the gelatinous tissues, an so sparing much of the energy of the en feebled digestive system, which is thus no consumed in producing gelatine for thes tissues, but is expended in the digestion o sanguiferous nourishment. We can now readil credit the statement of D'Arcet, who has show that in all the hospitals where the gelatine h been used as a principal but not the only article animal food, the patients relish it, the succe of the treatment has been much increased, a the period of convalescence on the avera much diminished. Now that we possess wh appears to be the true theory of the action

country against its use may be overcome; and that our hospitals mayparticipate in the benefits of D'Arcet's benevolent system, which, when successfully conducted, has likewise the advantage of superior economy.

PRESERVATION OF ANIMAL AND VEGETABLE BODIES.

Mr. Babington has reported to the British Association the results of experiments for the above purpose commenced in June, 1838, and continued four years. They were made by placing in small jars (5 inches by 2) solutions in water of the different substances unmixed but tried in three proportions: viz., 1, a saturated solution; 2, a solution diluted with an equal quantity of water; and 3, with a double quantity. The following is a list of them, arranged according to their value as preservatives of animal substances:

1. Good preservatives: napthha employed in the proportion of 1 part to 7 of water.

2. Moderately good, but the specimens soft: sulphate of magnesia, arseniate of potash.

3. Moderately good when examined in 1840, but the specimens decomposed in 1842: alum, muriate of ammonia, muriate of magnesia, nitre, sulphate of zinc, bicarbonate of potash, arsenious acid.

4. Quite useless for the purpose of preservation: sulphate of iron, sulphate of copper, sulphate of soda, sulphate of potash, carbonate of ammonia, nitrate of barytes, nitrate of strontian, nitrate of soda, muriate of barytes, muriate of lime, phosphate of soda, chloride of potash, oxalic acid, and rough pyroligneous acid.

A few drops of kreosote in water is a good preservative, but stains the specimens brown. Corrosive sublimate preserves perfectly, but hardens the substances too much. Concentrated acetic acid decomposes the skin, bones, and cellular membrane, but leaves the vessels untouched, i.e. preserved.

The vegetable substances are well preserved in oxalic acid, concentrated acetic acid, napthha, and kreosote; moderately well in muriate of ammonia, and corrosive sublimate. None of the others appear to have succeeded: nor, indeed, is the colour of the vegetables well preserved in any case; and, on the whole, the experiments with them are far from satisfactory.

ON THE ANALYSIS OF URINARY CALCULI.

By Mons. E. Marchand, (with Notes by Mr. Ure.*)

When a urinary calculus is to be examined, it ought to be sawn in two, in the direction of its greatest diameter, so as to enable us to ascertain the different layers of which it is formed. These layers are sometimes very different in their nature, and merit very great attention on the part of the inquirer.

The first thing to be done in the treatment of a calculus, is to incinerate a small quantity in a platinum capsule, in order to know whether it be composed in whole or in part of substances which are volatile by heat. In the first case, it may be formed entirely of uric acid, or of urate of ammonia; in the second, it may contain the phosphates oxalate of lime, urate of soda or of lime, &c. When the residue fuses by the agency of heat, it may be inferred to contain the ammonio-magnesian phosphate. If, on the other hand, it effervesce on the addition of muriatic acid, we may conclude, that urate or oxalate of lime had been present in the calculus, more especially if it afford the characters of the salts of lime, when subjected to the proper tests.

Where the calculus is destroyed, in whole or in part, by the action of heat, we must then look for uric acid. For that purpose, we pour a drop or two of nitric acid upon a small portion of the pulverized calculus, and expose it to a gentle heat, until perfect desiccation. Should it contain uric acid, that treated by the nitric acid, assumes a fine red color; of which the intensity may be increased by adding a few drops of water, and drying at a moderate heat. To succeed well in this operation, care must be taken not to employ too much nitric acid, otherwise we transform the uric into oxalic acid, and no longer obtain the desired result—namely, the formation of purpuric acid.

I may remark in passing, that M. Berzelius commits an error, when, in speaking of the action of nitric acid upon uric acid, he says, that the red matter arising from that re-action, and which accompanies the purpuric acid, does not colour the water in which it is dissolved. The fact is, I have always seen the liquor acquire a beautiful crimson tint at the moment of solution, which disappeared by an elevation of temperature but re-appeared in the residue of evaporation. In the cold the decoloration still occurs, though after a lapse of some hours, and there is deposited a powder of a reddish yellow hue. [On treating five grains of pure uric acid with a little nitric acid of sp. gr. 1.280, diluted with five waters, and gently evaporating, the interior of the porcelain capsule, which had been used, exhibited the characteristic purple coating. Distilled water being added, immediately became a deep carmine colour; which, in the cold, as above stated, got gradually fainter and fainter, and, after six hours wholly vanished.]

By this procedure we demonstrate, it is true, the presence of uric acid; but it is necessary to determine whether the acid be pure or mixed, or combined with other substances. For this end, a portion of the calculus, previously pulverized, is to be treated with a solution of caustic potash. If, during the process of solution, an ammoniacal smell be developed, other than that of lye, which is peculiar to uric acid, we may be sure, that it is united in totality, or in part only, with ammonia. When the calculus dissolves altogether in potash, it is composed entirely of uric acid or of urate of ammonia. Should it not dissolve completely, we must ascertain the nature of the substances which enter as constituent parts into its composition, and which are mingled or combined with uric acid.

When a calculus consists at the same time of uric acid and of urate of ammonia, we can easily recognize if the uric acid be wholly combined with ammonia, or if only a part be associated with that base. With this view, we must boil a portion of the pounded calculus for some instants in distilled water, and then filter. The urate of ammonia alone dissolves, sometimes in the state of biurate, while the free uric acid remains at the bottom of the tube, as can be verified by treating the remainder with potash, which no longer disengages any ammonia.

It has been stated above, that all calculi are not destroyed by the action of heat. To discover the nature of the substances which withstand fire, we must try whether they are alkaline or not after incineration, and whether they effervesce or not with muriatic acid. When the ashy residuum is alkaline and effervesces with acids, it is from the decomposition of a urate or an oxalate, frequently with lime for its base. To learn which of those acids exists in the calculus, we must boil a very small quantity of the last in water acidulated with nitric acid, then filter the liquor and saturate with ammonia. If a white precipitate be obtained, we may thence infer the presence of oxalate of lime; if, on the contrary, ammonia give no precipitate, we may conclude that the residuum is merely the product of the decomposition of a calcareous urate. These two re-actions are readily explained:—Under the influence of the nitric acid, the oxalate, as well as the urate of lime, is dissolved in water, but the former without changing its nature, and it is simply requisite to saturate the nitric acid, by means of ammonia, to make it re-appear. The urate of lime, on the other hand, undergoes decomposition when dissolved in water acidulated with nitric acid, nitrate of lime being formed which the ammonia does not affect.

When the residuum is alkaline and does not effervesce with acids, it usually consists of phosphate of lime, as ascertained by triturating it along with a few drops of a solution of nitrate of silver. If it acquire a yellowish tint, we are sure that it contains phosporic acid; by heating another portion with water acidulated with nitric acid, we obtain a liquor which, provided the residuum consisted of phosphate of lime, affords, by means of tests, all the characters of salts, and which, moreover, is precipitated by ammonia.

When the residuum is not alkaline and does not effervesce with acids, it is ordinarily formed of the ammonia-magnesian phosphate, fusible below the blow-pipe, emitting an odour of ammonia when treated by caustic potash, and assuming likewise a yellow tint when put in contact with nitrate of silver.

When the calculus does not experience any sensible loss by the action of heat, or exhibit the characters of uric acid when treated with nitric acid, it consists of oxalate of lime, of ammonia-magnesian phosphate, of phosphate of lime, of silica, of sulphate of lime, &c.; sometimes of a mixture of two or more of these substances.

To arrive at a knowledge of the constitution of these kinds of calculous concretions, we commence by calcining a small quantity in a platinum spoon, over the flame of a spirit lamp. We next pour some drops of water upon the ashes and see whether they are alkaline and effervesce with acids; if so, oxalate of lime forms a component part; if not, we must search for phosphate of lime, phosphate of ammonia and magnesia, silica, or sulphate of lime. For this purpose a drop or two of nitrate of silver is to be poured upon a portion of the calculus, and they are to be well triturated together. If the mixture assumes a yellow tinge, it is a proof of the presence of phosphoric acid in the calculus. In treating a particle of the calculus with caustic potash, we can tell whether or not the acid is combined with ammonia. In the first case it will evolve an ammoniacal odour. However, we must still submit to the flame of the blow-pipe what remains after calcination, to see if it fuse into a glass bead a character of the double phosphate of ammonia and magnesia. By its greater or less fusibility we may soon, with a little practice, determine whether the calculus be formed or not of a mixture of phosphate of lime and phosphate of ammonia and magnesia. Further information will be obtained by dissolving a small quantity of the ash in water acidulated with nitric acid, and treating the filtered liquor with oxalate of ammonia, which occasions in the solution of the calcareous phosphate, only, a white precipitate of oxalate of lime.

Siliceous concretions are recognised by their insolubility in acids, and by affording on fusion with alkalis a colourless glass, which will dissolve in water provided there be a sufficient excess of alkali.

In the collection of Mons. E. Barruel is the fragment of a vesical calculus, weighing nearly sixty *grammes*, and formed almost entirely of sulphate of lime. This fragment, which is concave, (the internal portion having gone astray) is in brilliant lamellar crystals, of a reddish colour. Calcined, in a platinum crucible, it exhales an odour of burnt milk, and takes a greyish hue. Heated before the blow-pipe it does not fuse, but becomes, on the contrary, very friable. It is not attacked by a solution of caustic potash, or sensibly by nitric acid. Treated with distilled water, it furnishes a liquid in which the presence of both lime and sulphuric acid can be unequivocally detected. Hence, it will be proper in future to test calculi for sulphate of lime.

When a few drops of solution of chloride of barium are poured into a solution of uric acid, saturated by the aid of heat, and allowed to cool, a white precipitate ensues, only partially removed upon adding nitric acid. The portion which does not dissolve in that acid, and which an excess of water will not take up, presents completely the pearly aspect of sulphate of barytes, recently precipitated, and diffused through a quantity of water. However, it must be admitted, that when the barytic chloride is poured into a saturated and boiling solution of uric acid, or urate of ammonia, a precipitate is thrown down, which readily dis-

* The Notes are inserted between brackets.

appears when treated, first, with concentrated nitric acid, and next with distilled water.

This property of the urate of barytes ought to be considered, as regards the determination of sulphuric acid in urinary concretions. The sulphate of lime being indecomposable by heat, the calculus should always be calcined before any researches are instituted for discovering its presence.—[Entertaining some doubts upon the above point, inconsequence of the very sparing solubility of uric acid in water, I was induced to repeat the experiment. I accordingly boiled some pure uric acid in a quantity of distilled water, and allowed the whole to cool. On pouring off the clear liquid, and adding to it a few drops of solution of chloride of barium, no precipitate whatever ensued. Probably the fallacy in the French experiment was owing to the accidental presence of sulphate of lime.]

Oxide of iron is another substance we may look for in the analysis of urinary calculi. Some time back, M. E. Barruel met with gravel almost entirely composed of it, although the patient, who voided it, had never been submitted to a ferruginous treatment.—[A remarkable calculus of this kind was sent from Bogota, by Dr. Roulin, to M. Boussingault; it weighed rather more than a *gramme* [15.4 grains.) was about the size of a nut, and considerably resembled certain mineral states of iron sand; it consisted, by analysis, of peroxide of iron, 38.81; alumina, 23.00; silica, 17.25; lime, 8.02; water, 10.89; loss, 2.03, in 100 parts. Several other calculi, of similar composition and appearance were afterwards passed by the same person.—See *Bull. Univ., c. x., p. 128, in Quart. Journ. of Science for* 1827.]

In order to save complexity, the methods of distinguishing the xanthic and cystic oxides have not been indicated, because these kinds of calculi are extremely rare, and, besides, easily recognised by the characters assigned to them in works on Medical Chemistry.—[*Xanthic oxide* dissolves in nitric acid without any gaseous evolution; and there remains after evaporation a bright citron yellow mass of which the solution in water is of a light, and that in potash of a deep reddish-yellow hue. Salammoniac throws down the substance again with its yellow colour from the alkaline solution. *Cystic oxide* or *cystine* dissolved in caustic potash, and the solution decomposed while boiling hot with excess of acetic acid, crystallizes by slow cooling in hexagonal spangles. It is soluble in diluted acids, as oxalic and muriatic, in which respects it differs from the zanthic oxide.]—*Pharmaceutical Journal.*

INGREDIENTS OF STAMPED AND PATENT MEDICINES.

(*According to Dr. Paris and other Authorities.*)

Dry Vomit of Marriott.—This once-celebrated vomit, called dry from its being exhibited without drink, consisted of equal proportions of tartarized antimony and sulphate of copper.

Madame Nouffleur's Receipt for Tape-worms.—Three drachms of the root of the *male fern*, reduced to a fine powder, and mixed with water; this constitutes one dose. Two hours after taking the powder, a bolus of calomel, scammony, and gamboge, is to be administered.

Duke of Portland's Powder for the Gout.—Equal quantities of the roots of gentian and birthwort (aristolochia rotunda), the tops and leaves of germander (chamædrys), ground pine (chamæpitys), and lesser centaury (chironea centaurium), powdered and mixed together.—As this is a combination of bitters, it might without doubt, be serviceable in certain cases of gout.

Keyser's Anti-Venereal Pills consist of the Acetate of Mercury, triturated with manna.

Arquebusade, ("Aqua Vulneraria,") a lotion, deriving its name from having been originally applied to wounds inflicted by the arquebuss, is composed of vinegar, sulphuric acid, honey, and alcohol, impregnated with various aromatics.

Aromatic Vinegar is an acetic solution of camphor, oil of cloves, of lavender, and of rosemary. The acetic acid used for this purpose is of about 145 degs. of the acetometer, containing 68·5 per cent. of real acid. A preparation of this kind may be extemporaneously made by putting ʒj. of Acetate of Potass into a phial with a few drops of some fragrant oil, and mxx. of Sulphuric Acid.

Thieves' Vinegar, or *Marseilles Vinegar*, is a pleasant solution of essential oils and camphor, in vinegar; the Edinburgh Pharmacopœia has given a formula for its preparation under the title of "Acetum Aromaticum." The repute of this preparation as a prophylactic in contagious fevers is said to have arisen from the confession of four thieves, who, during the plague of Marseilles, plundered the dead bodies with perfect security, and, upon being arrested, stated, on condition of their lives being spared, that the use of the Aromatic Vinegar had preserved them from the influnece of contagion. It is on this account sometimes called "Le Vinaigre des quatre voleurs." It was, however, the constant custom of Cardinal Wolsey to carry in his hand an orange, deprived of its contents, and filled with a sponge which had been soaked in vinegar impregnated with various spices, in order to preserve himself from infection, when passing through the crowds which his splendour or office attracted.

Elixir of Vitriol.—The preparation sold under this name is the Acid. Sulph. Aromat. E., and is imperfectly æthcrial in its nature.

Dr. Smellome's Ointment for the Eyes consists of half a drachm of Verdigris finely powdered and rubbed with oil, and then mixed with an ounce of yellow Basilicon, (Ceratum Resinæ.)

Taylor's Remedy for Deafness.—Garlic infused in oil of almonds, and coloured by alkanet root. It is an imitation of the "Acoustic Balsam" (Saint Marie) or the "Acoustic Oil" (Spielmann) Garlic is also an ingredient of the different aromatic vinegars recommended by various foreign authors as antidotes to contagion.

Anderson's Pills consist of the Barbadoes Aloes, with a proportion of Jalap, and Oil of Aniseed.

Hooper's Pills.—Pill Aloes cum Myrrha, (Pil. Rufi) Sulphate of Iron, and Canella Bark, to which is added a portion of Ivory Black.

Dixon's Antibilious Pills.—Aloes, Scammony, Rhubarb, and Tartarized Antimony.

Speediman's Pills.—Aloes, Myrrh, Rhubarb, Extract of Chamomile, and some Essential Oil of Chamomile.

Dinner Pills.—Lady Webster's, or Lady Crespigny' Pill.—These popular pills are the "Pilulæ Stomachicæ," vulgo, "Pilulæ ante cibum" of the Codex Medicamentarius Parisiensis. Editio Quinta, A.D. 1758, viz. R. Aloes optimæ ʒvj. Mastiches, et Rosarum rubrarum āā. ʒij. Syrupi de Absinthio q. s. ut fiat massa, the mass is divided into pills of three grains each. The operation of this pill is to produce a copious and bulky evacuation, and in this respect experience has fully established its value. It is difficult to explain the modus operandi of the Mastiche, unless we suppose that it depends upon its dividing the particles of the aloes, and thereby modifying its solubility. Similar to these pills are the "*Grains de vie de Mesue*" and the "*Grains de Sante de Frank*," although the latter are more purgative, containing, besides Aloes, Ox Gall, and Tartarized Antimony.

Fothergill's Pills.—Aloes, Scammony, Colocynth, and Oxide of Antimony.

Peter's Pills.—Aloes, Jalap, Scammony, and Gamboge, equal part ʒij.—Calomel ʒi.

Radcliffe's Elixir.—R. Aloes Socot. ʒvi. Cort.—Cinnamon et Rad Zedoar. āā. ʒss.—Rad. Rhei ʒi.—Coccinel. ʒss.—Syrup. Rhamni f℥ij.—Spirit. Tenuior. oj.—Aquæ Puræ f℥v.

The Elixir of Longevity, of Dr. Jernits, of Sweden, is an aromatic tincture, with Aloes.

The Anti-Arthritic Elixir, of Cadet de Gassicourt, consists of a mixture of the three tinctures of Aloes, Guaiacum, and Myrrh, and it is recommended also as an antidote to the effects of poisonous fungi. "*Remede contre les accidens occasionees par les champignons malfaisans.*"

Godfrey's Smelling Salts.—This highly pungent preparation is obtained by resubliming the common subcarbonate of ammonia with pearlash and a proportion of rectified spirit. The subcarbonate of potass in this case abstracts a fresh portion of carbonic acid from the ammoniacal salt. Its atomic composition has not yet been ascertained, but it will probably be found to consist of equal atoms of carbonic acid and ammonia, and must, therefore, be a true carbonate.

Noyau (Creme de Noyau).—Bitter almonds blanched 1 oz, proof spirit half a pint, sugar 4 oz. It is sometimes coloured with cochineal. The foreign Noyau, although differently prepared, is indebted to the same principle for its qualities. It is a liquor of a fascinating nature, and cannot be taken to any considerable extent without danger: the late Duke Charles of Lorraine nearly lost his life from swallowing some "Eau de Noyau," (water distilled from peach kernels too strongly impregnated)

Almond Paste.—This cosmetic for softening the skin, and preventing chaps, is made as follows: bitter almonds blanched 1 oz., the white of an egg, rose water and rectified spirit equal parts, as much as is sufficient.

Norris's Drops.—A solution of tartarized antimony, in rectified spirit, disguised by the addition of some vegetable colouring matter. I am credibly informed, says Dr. Paris, that the original recipe contained opium, but that which I have examined, and which was procured from a respectable agent, yielded no indications of its presence.

Composition of the Muscular Flesh of Different Animals.—Dr. Schlossberger examined the flesh of the ox, the calf, the hog, the sheep, the buck (of 3½ weeks old), the roe, the hen, a young pigeon, a very young duck, the barbel, the trout, and the crayfish. All contained fibrine, cellular tissue, liquid albumen, animal matters soluble in alcohol, extractive matter soluble in water only, salts, and, while fresh, more or less free lactic acid. The albuminous coagulum varied according to the quantity of intermixed blood; in the younger animals being less coloured. It was formed more speedily in the flesh of the fish and the crayfish, and invariably yielded, by incineration, phosphorus, sulphur, and iron. The pigment was entirely absent in most fishes and had a more fatty or resinous character in the crayfish. The hæmatosine, whenever found was always the same. The quantity of contained blood increased with the age, and appeared to be in inverse ratio with the water, but in direct ratio with the contained fibrine. All the kinds of flesh contained osmazome. This was a brownish yellow, non-gelatinous extractive matter, having an aromatic odour and an acrid taste, and being soluble in water and alcohol. It increased with the age and with the height of the animal in the scale of organization. The fibrine was every where th same.

ARTIFICIAL MINERAL WATERS.

(From the French Pharmacopœia.)

Natural Mineral Waters constitute an important art of the agents for removing disease. The difficulty which exists of procuring them, and the changes to which they are subject in the depots where they are preserved, have given rise to the idea of making artificial waters, but the actual state of science does not enable us to imitate accurately the waters of the majority of the springs; whether it is that chemical analysis leaves a doubt as to the nature of their component parts, or as to the mode in which they are combined, or that these waters contain principles which art has not yet been able to produce. As, however, these artificial waters form part of the kingdom of materia medica, and they are of great use in curing disease, it may not be unadvisable to give certain formulæ for their preparation, some of which have been already consecrated by use, and in the others are comprised the principal varieties of the most ordinary mineralizers of springs. By acting in accordance with their chemical analyses, imitations of the waters of other natural mineral springs, more or less accurate, may be obtained.

Mineral waters are called *saline*, when they hold a strong proportion of salts in solution; *acidulated*, when they are charged with carbonic acid gas: *ferruginous, iodurettled*, when iron or iodine is contained in them in sufficient quantity to give them a marked character; *sulphureous*, when they are mineralized by sulphuretted hydrogen or an alcaline sulphuret.

The preparation of saline waters consists in a simple solution of the salts in water: acidulated waters are made with carbonic acid gas, which has been carefully washed to remove any traces of any other acid; and as the water must contain a larger proportion of the gas than is soluble in it under ordinary circumstances, a proper apparatus must be employed for the purpose. When it is requisite to combine the saline and acidulous waters, it may be done either by dissolving the salts in water, and then charging it with the gas, or by making a concentrated saline solution, and putting it into a bottle, which is afterwards to be filled up with the water charged with gas. When insoluble carbonates are required in a mineral water, they must be used in the gelatinous state in which they are found on their production by double decomposition in water, as carbonic acid gas will more readily act on them. If by a double exchange of acids and bases, the salts directed in the formula can be all theoretically transformed into soluble salts, this substitution should be effected; then, at the moment of mixing the different saline solutions, the primitive formula is realized; the insoluble carbonates are produced and precipitated, and re-dissolved at a later period by the carbonic acid gas. An example of this kind will be found in the saline acidulated water, used to replace the natural Eau de Seltz. In the preparation of ferruginous mineral waters, water deprived of air must be employed; it may be obtained by boiling water for a quarter of an hour, and letting it cool, without being exposed to the air. The presence of oxygen in the water would cause the iron to pass to the state of peroxide, which would be precipitated in a great measure, either as an hydrate, or an insoluble salt. Sulphur is introduced in mineral waters, either as a soluble sulphuret, generally of sodium, or combined with hydrogen. In preparing this latter, a saturated solution of gas should be employed; in this state it is much too concentrated, and should be diluted with water, for the preparation of artificial sulphurous waters. As the alcaline sulphurets are exceedingly soluble, their introduction in mineral waters does not offer any difficulty.

Aqua Acidula Simplicior.—℞ aquæ puræ 1 vol.; acidi carbonici 5 vol. Charge the water with the gas by means of a proper apparatus, and fill bottles with it, each containing about 20oz.: they must be very accurately corked, and kept lying down in a cool place. By adding two ounces of syrup of lemons to each bottle before the gazeous water be added, a very agreeable drink may be obtained, called gazeous lemonade. By changing the syrup, a great number of acidulated and saccharine drinks may be procured.

Artificial Eau de Seltz.—℞ Chlorureti calcii gr. vj.; chlorureti magnesii gr.v.; chlor. sodii gr. xx.; carb. sodæ cryst. gr. xvj: phosph. sodæ cryst. gr. $1\frac{1}{3}$; sulph sodæ cryst. gr. j.: aquæ puræ ℥xx.; acidi carbonici 5 vol. Dissolve the sodaic salts in one proportion of water, and the earthy chlorurets in another, mix the liquors, and charge them with gas; the gazeous saline water which is the result, should be poured directly into bottles, and well stoppered. It is intended to replace the natural Eau de Seltz; it contains more carbonic acid, and is therefore often preferable.

Aqua Acidula Cum Bicarb. Potassæ.—℞ Bicarb. potassæ ℈iv.; aquæ puræ ℥xx.; acidi carbonici 5 vol. Dissolve the salt in water, charge with the gas, and bottle. Each ounce will contain about four grains in solution.

Soda Water.—℞ Bicarb. sodæ gr. xx.; aquæ puræ ℥xx.; acidi carbonici 5 vol. Prepare as the preceding one.

Artificial Eau de Vichy.—℞ Carb. sodæ cryst. ʒij. gr. vj.; chlor. sodii gr. $\frac{1}{3}$; chlor. calcii cryst. gr. xi.; sulph. sodæ cryst. gr. vj.; sulph. magnes. cryst. gr. iij.; sulph. ferri. cryst. gr. $\frac{1}{3}$; aquæ aere orbatæ ℥xx.; acidi carbonici $3\frac{1}{2}$ vol. Make a solution of the sodaic salts, another of the sulphate of magnesia, and a third of the chloruret of calcium; mix, and charge with the gas; then pour into bottles, in which the sulphate of iron dissolved in a little water has been previously introduced. This water differs essentially from the natural Eau de Vichy in the absence of organic matters.

Artificial Eau de Mont D'or.—℞ Carb. sodæ cryst. ʒij. gr. xxiv.; chlor. calcii cryst. gr. viij.; chlor. magnesii cryst. gr. $1\frac{1}{2}$; chlor. sodii gr. $1\frac{1}{3}$; sulph. ferri cryst. gr. ij.; sulph. sodæ cryst. gr. $1\frac{1}{3}$; aqua aere orbatæ ℥xx.; acidi carbonici 5 vol. Dissolve the carbonate of soda and the marine salt in water, and charge the solution with gas; make another solution of the earthy chlorurets and of the sulphate of iron, and mix; introduce into bottles, and fill them with the gaseous saline water. Stopper quickly.

Eau de Bourbonne.—℞ Bromuretti potassi gr.$\frac{2}{3}$; chloruret sodii gr. liv.; chlor. calcii cryst. gr.xxxviij.; sulph. sodæ cryst; gr. xxij.: bicarb. sodæ cryst. gr. vj.; aquæ puræ ℥xx.; acidi carbonici 5 vol.

Magnesian Water.—℞ Sulph. magnes. cryst. ʒviij. gr. xxiv.: carb. sodæ cryst. ʒx. gr. xlviij.; aquæ puræ ℥xx.; acidi carbonici 6 vol. Dissolve each of the salts separately in water, mix and boil the solution, keeping them boiling until gas is no longer disengaged; let them precipitate, decant, and wash the precipitate carefully, and let it drain; mix it with a sufficient quantity of water, and charge with the gas. It should not be bottled until several hours after the introduction of the gas, and during that time, should be occasionally shaken to favour the solution of the carbonate of magnesia. Each bottle will contain two drachms twenty-four grains of white magnesia in the state of bicarbonate, with a slight excess of carbonic acid.

Gazeous Magnesian Water.—℞ Sulph. magn. cryst, ʒiv. gr. xij.; carb. sodæ cryst. ʒiv. gr. liv.; aquæ puræ ℥xx.; acidi carbonici 6 vol. Proceed as for the simple magnesian water. Each bottle of 20 ounces will contain one drachm gr. xij of white magnesia in the state of bicarbonate, with an excess of carbonic acid.

Artificial Eau de Seidlitz.—℞ Magn. sulph. cryst. ʒij. gr. xxiv.; aquæ puræ ℥xx.; acidi carbonici 3 vol. Dissolve the sulphate of magnesia in water, charge with the gas, and bottle. The Eau de Seidlitz may be prepared with a larger quantity of the salt, each bottle to contain either twice, thrice, or four times as much.

Artificial Eau de Spa.—℞ Carb. Sodæ cryst. gr. iij.; carb. calcis gr. 3-5ths; magn. carb. $\frac{1}{4}$ gr.; proto-chlor. ferri gr. $\frac{2}{3}$; Aluminis cryst. gr. 1-7; aquæ aere orbatæ ℥xx.: acidi carbonici 5 vol. Dissolve the carbonate of soda in a small quantity of water, and mix the carbonates of lime and magnesia with the solution; dissolve the alum and chloruret of iron in another portion of water, and mix the two solutions. Pass into bottles, and fill with the simple gazeous water. This preparation resembles the Spa waters, and also in some degree those of Bussang, Forges, Pyrmont, Vals, &c.

Eau Sulfuree.—℞ Sulphureti sodii cryst. gr. ij. $\frac{1}{2}$; carb. sodæ cryst. gr. ij. $\frac{1}{2}$; chlorureti sodii gr. ij. $\frac{1}{2}$; aquæ aere orbatæ ℥xx. Dissolve and keep in well-corked-bottles. This mineral water is used to replace those charged with the sulphuret of sodium, and is often used in lieu of the sulphureous waters of the Pyrenees, of which, however, it is but an imperfect imitation. It is employed indifferently under the names of *Eau Minérale Artificielle de Barèges, de Cauterets, de Bagnères, de Luchon, de Bonnes, de Saint Sauveur*, or of any other sulphureous water of the eastern Pyrenees.

Solution for the Artificial Bain de Bereges.—℞ Sulphureti, sodii cryst.; carb. sodæ cryst.; chlorureti sodii; ana ℥ij. ʒiij. gr. vj.; aquæ puræ ℥x. Dissolve the salts in water, bottling quickly, and corking carefully. It is to be mixed with the water in the bath when required. The quantity above indicated is sufficient for a bath containing 300 quarts. It gives a colorless bath, having a slight hydro-sulphurous odor, differing in every respect from the ordinary sulphureous bath prepared with the sulphuret of potassium obtained from sulphur and potass.

PHARMACEUTICAL VARIETIES.

Non-nitrogenised Foods.—It cannot be a matter of doubt, (says Dr. Pereira, in the *Pharmaceutical Journal*) that non-nitrogenised substances are intended by nature to constitute part of the food of man and other animals, but especially of the herbivora. We find fixed oil in the yolk of the egg, and in milk (in which it is called butter), two substances supplied by nature for the food of young animals. Milk contains a second non-nitrogenised alimentary principle, namely sugar. If we further add the fondness of animals for non-nitrogenised substances, the craving, nay, almost insatiable desire for them, manifested by individuals who are deprived of them, and the fact before mentioned, that nitrogenised food alone cannot support life, not a doubt can remain in our minds that these principles are essential to health and life.

In commencing our enquiry then into the particular purpose they serve in the animal economy, I would observe, in the first place, that with the exception of fat, none of them are constituents of the animal system; nor in a state of health are they found in the excretions. It is obvious, therefore, that they must suffer some change or transformation in the organisms. Now they all consist of carbon, hydrogen, and oxygen. In starch, sugar, and gum, the hydrogen and oxygen are exactly in the ratio to form water. Do they, therefore, contribute carbon, or in some cases, carbon and hydrogen, to assist in the formation of blood? Liebig asserts they do not, for he observes that as the nitrogenised principles used as food contain exactly the "amount of carbon [and hydrogen] which is required for the production of fibrine and albumen," it follows that the carbon of gum, sugar and starch, and the carbon of hydrogen and butter and other fats cannot "be employed in the production of blood." If the nitrogenised principles contained less carbon than albumen and fibrine, then starch, sugar gum, and fat, might give up some carbon to compensate the difference. He, therefore, concludes, that these bodies yield their carbon, and, when their hydrogen is in excess to their oxygen, part of their hydrogen also, to form with atmospheric oxygen, carbonic acid and water, and, therefore, to develope heat. They serve to protect the organism from the action of the oxygen, which, in the absence of food, consumes the tissues. "If," says Liebig, "we observe a man or other animal in sickness, or at any time when the body is not supplied with nourishment to compensate for the continual loss, we find him become lean; the fat is the first to disappear, it vanishes through the skin and lungs in the form of carbonic acid and water as none of it can be found in the fæces or urine; it resists the action of the atmosphere on the body, and is a protection to the organs. But the action of the atmosphere does not end with the loss of fat; every soluble substance of the body enter

into combination with the oxygen of the air. The influence of the oxygen of the atmosphere is the cause of death in most chronic diseases, from want of carbon to resist its action, that of the nerves and brain is used. In a normal state of health and nutrition, the carbon of the carbonic acid must have another source."

You will now understand why Liebig calls the non-nitrogenised foods *elements of respiration*; and will comprehend in what way *alcohol* taken dietetically contributes to the production of animal heat. The *Temperance* and *Tea-total Societies* have quite overlooked this use of spirit. It certainly cannot alone form organised tissues, since it is deficient in some of the essential ingredients—nitrogen, sulphur, and phosphorus. But it cannot be doubted that it undergoes some change in the animal economy, and probably may be made some use of. It is not found in the excretions; traces of it, indeed, are recognisable in the breath, but the quantity in this way thrown out of the system is inconsiderable, and scarcely worthy of consideration. It, therefore, must be got rid of in the form of carbonic acid and water, and to convert it into these substances it requires merely atmospheric oxygen.

Alcohol . .	$C^4\ H^6\ O^2$	Carbonic Acid	C^4 — O^8
Oxygen . .	— — O^{12}	Water	— $H^6\ O^6$
	$C^4\ H^6\ O^{14}$		$C^4\ H^6\ O^{14}$

Now, the formation of carbonic acid and water must be attended with the development of heat; and, therefore, alcohol is a fuel in the animal economy, by the combustion of which, caloric is evolved. Common experience favours this view. Coachmen and others take it in cold weather to keep them warm, and it is familiarly used to prevent what is called "catching cold." In cases of extreme suffering and exhaustion from excessive exertion and privation of food, the cautious and moderate dietetical use of spirit has, on many occasions, proved invaluable. In Captain Bligh's account* of the sufferings of himself and companions, in consequence of the mutiny of the crew of the Bounty, he observes, "The little rum we had was of great service; when our nights were particularly distressing. I generally served a teaspoonful or two to each person: and it was joyful tidings when they heard of my intentions." It is said, that the inhabitants of colder climates take more spirit than others and with less injury. Liebig accounts for this by saying that they inhale a more condensed air, that is, they take in more oxygen at every inspiration; combustion is more rapid in them, and thus the elements of the alcohol are more speedily got rid of.†

I trust that in offering these remarks on the effects of alcohol, I may not be misunderstood. I do not wish to cast any reflections on the Societies before referred to, whose motives I highly esteem, and whose objects I would gladly promote. It is my duty, however, to lay before you, on this matter, what I believe to be the truth. If I had to point out the injurious qualities of alcohol, I think I could soon prove that though it evolves heat in burning, it is an obnoxious and most expensive fuel. Consider its volatility, the facility with which it permeates membranes and tissues, and its injurious operation, before it is burnt in the lungs, on the stomach, the brain, and the liver.‡ Remember that though spirit burns and evolves heat, there are, under ordinary circumstances, other better, safer, and cheaper combustibles to be burned in the vital lamp.

* *Voyage to the South Seas* in 1787-9, p. 190, Lond. 1792.

† The Highlanders, who it is well known are immoderate drinkers, pretend that spirit does not intoxicate in the Hills as it would do in the Low Country. (See *Letters from a Gentleman in the North of Scotland to his friend in London*, vol. 2, p. 161, 5th Ed., Lond. 1818).

‡ The effect of alcohol on the stomach may be ascribed to its topical chemical action. But in connection with its well-known action on the brain, and its tendency to produce granulated liver (the *drunkard's* or *gin liver*), it deserves to be noticed, that alcohol has been detected in the brain and liver of those who have died under its influence. (See Pereira's *Elements of Materia Medica*, vol. 1, p. 359, 2d edit.)

Some of these non-nitrogenised foods serve another purpose in the animal economy—*they contribute to the formation of fat*. When the quantity of these foods taken into the stomach is great, that is, out of proportion to the quantity of oxygen absorbed by the lungs, fat is, under some circumstances, formed. Sugar, starch, and gum become, by the loss of part of their oxygen, fat; for the relative proportion of their carbon and hydrogen is almost identical with that of fat.

Starch contains	79 carbon	to	10.09 hydrogen	
Sugar	79	—	" 11.80	—
Gum	79	—	" 11.80	—
Mutton fat	79	—	" 11.1	—
Human fat	79	—	" 11.4	—
Hog's lard	79	—	" 11.7	—

Some facts adduced by Liebig are almost conclusive that starch and sugar may become converted into fat in the animal economy. A lean goose, weighing 4lbs. gained, in thirty-six days, during which it was fed with 24lbs. of maize, 5lbs in weight, and yielded 3½lbs. of fat. Now this fat could not have been contained in the food ready formed, because maize does not contain the thousandth part of its weight of fat, or of any substances resembling fat. A certain number of bees, the weight of which were exactly known, were fed with pure honey devoid of wax. They yielded one part of wax for every twenty parts of honey consumed, without any change being perceptible in their health or in their weight. I agree with Liebig, that with these facts before us, "it is impossible any longer to entertain doubt as to the formation of fat from sugar in the animal body*."

But alcohol is an element of respiration. Does it form fat? I think not. In the first place, its carbon and hydrogen are not in the ratio of those of fat, for it contains 69 parts of carbon to 19.74 of hydrogen. Secondly, we do not find that spirit drinkers are fat; but, on the contrary, emaciated. Hogarth, in his *Beer Alley* and *Gin Lane*, has ludicrously though faithfully represented the differences in the appearance of beer topers and spirit tipplers. The first are plump, rubicund, and bloated; the latter are pale, tottering, emaciated, and miserable.

Phosphorus.—This, says Dr. Pereira, is a constituent of both animals and vegetables. It is an essential ingredient of albumen and fibrine, and of all tissues composed of those principles. Nervous matter also contains it. Its existence in the brain has been long known. In 1834, Couerbe † advanced an absurd notion, that the healthy or morbid conditions of the mental faculties were connected with variations in the amount of this substance in cerebral matter. "In the brains of sane men," says he, "I have found from 2 to 2.5 per cent. of phosphorus, in those of idiots only 1 or 1.5, while in those of madmen there are from 3 to 4.5 per cent.!" It is scarcely necessary to say, that the accuracy of this assertion has been disproved; and Lassaigne ‡ fixes the amount of phosphorus in the brains of madmen at from 1.93 to 1.97 per cent. The bones also contain phosphorus, which exists in them in combination with oxygen and lime principally, constituting a sub-phosphate of lime (*bone ash*). As phosphorus, therefore, is an essential ingredient of the animal body, it must of course be a constituent of the food. The yolk of egg and milk, both aliments for young animals, contain it; in the latter of these foods it exists as subphosphate of lime. It is a constituent of the bones and flesh of animals, and of many vegetable substances on which we feed. Fruits and seeds, especially of the grasses, abound in the earthy phosphates: and horses are in consequence subject to the formation of a large intestinal concretion (*hippolithus*) composed of ammoniacal phosphate of magnesia derived from the husk of the oats on which they are fed. Dr. Pereira has two specimens of this concretion, each of them as large as a child's head, and weighing several pounds. Fishes are especially rich in phosphoric matter,—a fact which explains the circumstance related by Dumas, * of the evolution of phosphuretted hydrogen in the purification of spirit which had been used for preserving fish.

* The mode of promoting obesity, practised in certain parts of the world, lends support to the above statements. If "we can trust to the reports of physicians who have resided in the East," says Liebig, "the Turkish women, in their diet of rice, and in the frequent use of enemata of strong soup, have united the conditions necessary for the formation both of cellular tissue and fat." M. Caullet de Vaumoral quoted by Mrs. Walker, (*Female Beauty*, p. 171, Lond. 1837), states that in the Bey's Seraglio at Tripoli, women are fattened against a certain day by means of repose and baths, assisted by a diet of Turkish flour, mixed with honey. Fifteen days, he says, were sufficient for the purpose.

† *Ann. de Chim. et de Physique*, p. 190, 1834.

‡ *Journ. de Chim. Med* t. 1er II. Serie p. 344, 1835.

The following table shows the quantity of phosphorus, phosphoric acid, or earthy phosphates, contained in some alimentary substances.

TABLE OF THE QUANTITY OF PHOSPHORUS, &c., IN ALIMENTARY SUBSTANCES.

1000 Parts,	Quantity of Phorphorus	
Fibrine (dried)	4.3 to 3.2	Mulder.†
Albumen of eggs (dried)		
Albumem of serum of blood (dried)	3.3	Mulder.
Vegetable fibrine	as animal fibrine and albumen.	Liebig.
——— albumem		
Cerebric acid (in brain)	9	Fremy. ‡
Oleophosphoric acid (in brain)	12 to 19	Ditto.
1000 Parts.	Quantity of Phosphoric Acid.	
Potatoes (dried)	5.631	Einhoff. §
1000 Parts.	Quantity of Earthy Phosphates.	
Wheat	from 3.6 to 9	Hermbstaedt.‖
Rye	6 to 41.8	
Barley	1 to 6	
Oats	1.6 to 6	
Rice	1.3 to 4	
Garlic	11	
Caseine	60	Berzelius.¶
Bones of sheeps' feet	1242	French Commission.**
——— Ox's head	327.7	Ditto.
Milk	2.55	Berzelius.
Blood (average)	0.6	Denis. ††

These are only some of the substances used as food in which phosphorus has been detected. But most organised substances contain it, usually in the form of phosphate of lime. Thus, in the ashes of almost every plant a phosphate is found. The crust, which is deposited in the boilers used for refining sugar, contains, according to Avequin,‡‡ no less than 92.43 per cent. of sub-phosphate of lime; so that it is obvious that unrefined sugar must contain phosphorus.

These observations fully establish the correctness of Liebig's remark, that when flesh, bread, fruit, and husks of grain are used for food, more phosphorus is afforded to the body than it requires, and the excess is eliminated in the urine and excrement.

Sulphur.—Sulphur, says Dr. Pereira, is a constituent of both animals and vegetables. Fibrine and albumen, and all tissues composed of these substances, contain it. If hydrochloric acid be added to a solution of flesh in liquor potassæ, some sulphuretted hydrogen is evolved and is detected by its staining paper, moistened with a solution of sugar of lead. The discolouration which a silver spoon suffers by being used in eating eggs, depends on the formation of sulphuret of silver. If some white of egg, boiled hard, be decomposed by heat, it evolves hydrosulphuret of ammonia, which discolours paper moistened with sugar of lead. Caseine also contains sulphur, as does also hair and bone. The efficacy of a mixture of finely powdered litharge and lime (*hair dye*) in staining the hair, depends on the formation of the black sulphuret of lead. The lime serves to form, in the first place, a sulphuret of calcium with the sulphur of the hair. Animal charcoal (*bone black*) evolves sulphuretted hydrogen, when treated with hydrochlo-

* *Traité de Chimie*, t. i.

† *Pharmaceutisches Central Blatt für* 1838, p. 885.

‡ *Journal de Pharmacie*, t. xxvii. p. 453, 1841.

§ *Thomson's Chemistry of Organic Bodies*, p. 840.

‖ *Anleitung zur chemischen Zergliederung der Vegetabilien uberhaupt und der Getreidearten insbesondere*. Leipzig, 1831. The nature of the manure modifies the quantity of earthy phosphates found in corn.

¶ *Traité de Chimie*, t. vii. p. 603.

** *Comptes Rendu des Seances de l' Academie des Sciences*, Août, 1841.

†† *Recherches expérimentales sur le Sang Humain*, Paris, 1830.

‡‡ *Journal de Pharmacie*, t. xxvii, p. 15.

ric acid, showing that sulphur is a constituent of bones.

The existence of sulphur in so many animal substances, serves to explain the evolution of sulphuretted hydrogen and hydrosulphuret of ammonia, by putrifying animal substances; excrement for example. Indeed, so much sulphur is obtained in this way, that some geologists have considered it to be a source of at least part of the native sulphur of the mineral kingdom.* That sulphuretted hydrogen is evolved in privies is proved by its darkening the white paint, and by its blackening silver articles (watches, coin, spoons, &c.) which have accidentally fallen into the night soil.

The sulphur of the metamorphosed tissues is thrown out of the animal system, principally in the form of sulphuric acid. The urine contains sulphates in part formed by the action of the oxygen of the arterial blood on the sulphur of the tissues. If the hollow of a tooth be filled with an amalgam of silver, a black crust of metallic sulphuret is speedily formed on it. Moreover, the leaden blue line, which borders the edges of the gums attached to the neck of the teeth, in persons whose constitutions are under the influence of lead,† is probably sulphuret of lead.

The system derives its sulphur from animal, vegetable, and mineral substances, used as food. Thus flesh, eggs, and milk contain it. Vegetable fibrine (as of corn), vegetable albumen (as of almond, nuts, cauliflowers, asparagus, and turnips), and vegetable caseine (as of pease and beans) contain it. Lastly, sulphur, in the form of sulphate of lime, is a constituent of common and spring water.

TABLE OF THE QUANTITY OF SULPHUR IN SOME ALIMENTARY SUBSTANCES.

1000 Parts of	Quantity of Sulphur.	
Fibrine	From 3.6 to 3.8	Mulder
Albumen of eggs		
Albumen of blood	6.8	Ditto.
Caseine	3.6	Ditto.
Vegetable fibrine	as animal fibrine, albumen, and caseine.	Liebig.
——— albumen		
——— caseine		
Volatile oil of black mustard	204.8	
Sulphosinapisine (in white mustard)	96.57	

Celery, rice, hops, ginger, and many other vegetable substances contain sulphur. Assafœtida, which Dr. Ure says contains two per cent. of sulphur, is considered by some oriental nations as "*food for the gods.*"

An infusion of *white* mustard strikes a blood red colour with the persalts of iron, owing to the presence of sulphosinapisine. Both black and white mustard flour charred in a tube, evolve a sulphuretted vapour, which blackens paper moistened with a solution of acetate of lead. In the same way sulphur may be detected in cabbage, potatoes, and many other vegetable foods. If pease or almonds be boiled in a solution of caustic potash, and then hydrochloric acid be added, the evolved vapour blackens paper moistened with a solution of lead, thus showing that these seeds contain sulphur.

Iron.—The ashes of most animals and vegetables yield traces of iron.

This metal is an essential constituent of the blood discs. From 10,000 parts of blood we can obtain about eight parts of peroxide of iron—equal to 5,6-10 parts of the pure metal. The hair also contains iron—the black the most, the white the least. Braconnot likewise found it in the gastric juice.

Liebig regards the compound of iron in the blood as an oxidized one. In the arterial blood, it is saturated with oxygen (*hydrated sesquioxide*); but during its passage through the capillaries, it loses part of its oxygen,‡ and becomes protoxide of iron, which combines with carbonic acid, one of the products of the oxidation of the metamorphosed tissues, and forms *carbonate of the protoxide of iron*, which exists in venous blood. This, in the lungs, absorbs the same amount of oxygen it had lost, and gives out its acquired carbonic acid.

Whether this be the true theory of respiration or not I shall not stop to inquire, though the fact, that for every volume of oxygen absorbed by carbonate of the protoxide of iron no less than four volumes of carbonic acid are evolved, appears to me to present some difficulties to its admission, since we know that in the process of respiration, the quantity, by volume, of carbonic acid expired, is not quite equal to that of the oxygen which has disappeared.

Iron is found in the yolk of the egg and in milk, foods intended by nature for the nourishment of young animals. In the milk it exists, according to Berzelius, as phosphate of iron. The flesh on which we feed, as well as most vegetables (mustard, cabbage, potatoes, pease, cucumbers, &c.,) supply us with iron.

Chlorine.—This element, continues Dr. Pereira, is a constituent of the blood, and of the gastric juice; and it is found in several of the excretions, as the urine, saliva, tears, and fæces. In the blood it exists in combination with sodium.

As the chloride of sodium of the blood is constantly being consumed in the formation of the gastric juice and other secretions, this salt becomes an indispensable article of food. To the embryo chick, nature has supplied it in both the white and yolk of the egg, while the young mammal finds it in his mother's milk. The appetite which all animals evince for salt, shows that it is an agent indispensable for their health. The common salt, therefore, which we consume at our tables is not to be regarded as a mere exciter of the palate; it is an essential article of food. It contains 60 per cent. of chlorine. It is probable, that besides furnishing the secretions with salt and its constituents, the salt of the blood performs some important function in relation to the blood discs. Every one well knows that in cholera, and some other maladies, the blood, which is deficient in its saline parts, has a very dark or black appearance.

But one of the most important uses of chloride of sodium (common salt) is the formation of hydrochloric acid, an essential ingredient of the gastric juice. By what particular agency, whether by electricity or affinity, this decomposition is effected, we are unable to determine precisely, but that the hydrochloric acid of the gastric juice derives its chlorine from the chloride of sodium, can scarcely be doubted. Its hydrogen is probably derived from water, the oxygen of which at the same time unites with sodium to form soda.

The gastric juice consists essentially of *water*, *gastric mucus*, and *hydrochloric acid*. As mucus is a fluid secretion of all the mucous membranes, while the mucus of the gastric membrane alone yields with water and hydrochloric acid a digestive liquor, it is probable, that the mucus of the stomach contains some peculiar organic principle, not hitherto isolated, on which its peculiar properties depend. To this principle, the term *pepsin* (from πεπτω, *I digest*) has been applied. An artificial digestive liquor is readily prepared by macerating the lining membrane of the fourth stomach of the calf in water, to which a few drops of hydrochloric acid have been added. If small cubes of white of egg, boiled hard, be macerated in this liquor, their more superficial parts become translucent, and their edges and angles rounded. Very gradually they are dissolved, presenting during the process, the appearance of a cube of soap, dissolving in water, and having a gelatiniform character. The yolk of egg yields a turbid liquor, owing to the presence of fat globules. A piece of cooked beef-steak becomes pulpy at the surface, and gradually dissolves.

These changes are produced neither by an infusion of the stomach, nor by diluted hydrochloric acid employed separately; but by the two conjointly they are readily effected.

Now Liebig asserts "that the substance which is present in the gastric juice in a state of change, is a product of the transformation of the stomach itself;" and he goes on to state that "the fresh lining membrane of the stomach of a calf, digested with weak muriatic acid, gives to this fluid no power of dissolving boiled flesh or coagulated white of egg; but if previously allowed to dry, or if left for a time in water, it then yields to water, acidulated with muriatic acid, a substance in minute quantity, the decomposition of which is already commenced, and is completed in the solution."

But several circumstances appear to me to be opposed to this view. The fact ascertained by Schwann, that the solvent principle of the digestive fluid can be precipitated from its neutral solution by acetate of lead, and be obtained again in an active state from the precipitate by means of sulphuretted hydrogen, is apparently inconsistent with Liebig's idea, that this principle is matter in a state of decomposition or transformation. Moreover, if the essential part of the gastric juice—that by which digestion is effected—be a mere transformation of the stomach, how is it that other parts of analogous structure and composition do not suffer the same transformation? I have tried to obtain a digestive liquor from the second stomach of the calf, and from the bladder, but in vain. How is it that this fancied transformation goes on, during life, only when solicited to do so by the presence of aliment or by mechanical irritation? Dr. Beaumont ascertained that pure gastric juice will keep for many months without becoming fetid: a fact scarcely explicable on the hypothesis that its activity depends on a principle in a state of decomposition. I find that while acidulated infusions of the second stomach of the calf and of the bladder soon become putrid and fetid, that of the fourth stomach remains remarkably free from unpleasant smell for several weeks. Lastly, I find, contrary to Liebig's statement, that a digestive liquor can be prepared from the fresh undried fourth stomach of a calf.

I cannot agree with Liebig, that digestion is a process analogous to fermentation; that, in fact, it is nothing more than the transformation of food, effected by the contact of matter in a state of decomposition. If it were, a small quantity of the gastric juice ought to be capable of effecting the digestion of an unlimited quantity of food. Now, the experiments of Dr. Beaumont on the natural gastric juice, and of Schwann on the artificial digestive liquor, prove that this is not the case. Both found that only a certain amount of food could be digested with a given quantity of gastric juice; and Dr. Beaumont observes, that "when the juice becomes saturated it refuses to dissolve more; and if an excess of food have been taken, the residue remains in the stomach, or passes into the bowels in a crude state."

Sodium.—The observations on chlorine apply in part to sodium, since these two elementary substances are usually taken into the system together, in the form of chloride of sodium, which is a constituent of the blood. I have already stated that common salt, by the aid of water, is converted in the system into hydrochloric acid (found in the gastric juice) and soda. The latter substance exists in the blood in combination with albumen (*albuminate of soda*). While potassium is the usual metallic basis of the alkaline salts of plants, sodium, on the other hand, is the basis of the alkali and alkaline salts of animals. All the animal tissues contain sodium, and their ashes (as of feathers, bristles, hairs, &c.) accordingly communicate a yellow tinge to flame.

The common salt, used at our tables as a condiment, contains 40 per cent. of sodium. The soda, which exists in the blood in combination with albumen, passes out of the system in union with organic matter ($C^{70}\ H^{66}\ N^{2}\ O^{22}$) represented by *choleic acid*: in other words, bile may be represented as choleate of soda—that is, it contains the elements of this salt, though not necessarily arranged as such. Lastly, "the soda, which has been used in the vital processes, and any excess of soda, must be expelled in the form of a salt, after being separated from the blood by the kidney." (Liebig.) The acids with which, in the flesh-eating animals, the soda com-

* Brocchi, quoted by Leonhard in his *Handbuch der Oryktognosie*, p. 599, Heidelberg, 1826. When the gate St. Antoine at Paris was pulled down in 1778, there were found in the ditches of that place, where many years (300?) previously excrement had been deposited, grains and crystals of sulphur deposited on lime. (Fougeroux de Bondaroy, *Mém. de l'Academie Royale des Sciences*. Anneé, 1780, p. 105.) It is stated in the *Athenæum*, (Dec. 1, 1838, p. 860), that Maravigno "disputes the assertions of Prof. Gemellaro, who pretends that sulphur owes its origin to the decomposition of mollusca."

† See Dr. Burton's paper on this subject, in the *Medico-Chirurgical Transactions*, 2nd Series, vol, v. p. 63, 1840.

‡ The facility with which, under certain circumstances, the peroxide of iron loses part of its oxygen has been recently applied by Sir J. F. Herschel in the production of photographic pictures, termed *ferrotypes*.

ines, are sulphuric and phosphoric. These are in art formed in the system by the oxidation of the sulhur and phosphorus of the metamorphosed tissues.

Calcium.—This is a constituent of all animals. he bones of the vertebrata (as man) contain subhosphate (principally), but mixed with carbonate, f lime; while the shells and crusts of the invertebrated animals (as lobsters, oysters, &c.) consist of arbonate (principally), mixed, with sub-phosphate, f lime. Muscles, nervous matter, the liver, thyroid land, and, indeed, all the animal solids, contain alcium, usually combined with oxygen and phoshoric acid; the blood also contains it.

It is requisite that the food of young animals should ontain sub-phosphate of lime for deposition in the ones; accordingly we find it in the egg and in milk. The more mature animal is supplied with it in the various forms of animal food on which he feeds, as well as in most vegetables. Seeds (especially corn), onions, garlic, &c. contain it.

Oxalate and other vegetable salts of lime are found in some vegetable foods; thus, the stalks of rhubarb, which are eaten in tarts and puddings, contain crystallized oxalate of lime. It is the same salt which gives to Chinese and Russian rhubarb its grittiness when chewed. Gum and unrefined sugar yield ashes containing calcium; and the well known fact, that *strong* unrefined sugar becomes by keeeping *weak*, is ascribed to the presence of lime, which by its action on sugar converts it into a soft, clammy, gummy matter. Grapes also contain calcium. Another source of calcium is ordinary water, which contains both carbonate and sulphate of lime.

Magnesium.—Minute quantities of this metal are found in the teeth, bones, nervous matter, the thyroid gland, and several parts of the body; it exists also in the blood. In every case, I believe, of its occurrence in the animal body it is found in combination with oxygen and phosphoric acid, forming phosphate of magnesia; and in many cases with ammonia also.

Its source is of course to be found in the foods; not only the flesh but also the vegetables which we eat contain it—as seeds (especially of the cereal grasses) and potatoes. I have already referred to the large intestinal concretions (ammoniacal phosphate of magnesia), found in the intestines of horses, and which are derived from the husks of the oats on which these animals feed.

Potassium.—Minute traces of potassium have been detected in the solids (cartilage, liver, &c.), and in some of the fluids (blood, urine, milk, &c.). Liebig states, that "without an abundant supply of potash, the production of milk becomes impossible;" but I know not on what authority he makes this statement, for Schwartz found only seven parts of chloride of potassium (equivalent to 3.68 parts of potassium) in 10,000 parts of milk—a quantity apparently too minute to be of much importance.

The sources of potassium in our system are both animal and vegetable food. Most plants which grow inland contain it; thus, it is found in grapes and potatoes. Its presence may be readily detected: burn a grape stalk in the candle—the minute ash obtained at the point of the burnt stalk will, if introduced into the outer or almost colourless cone of the flame, communicate a violet tint, thus demonstrating the presence of potash.

Fluorine.—Berzelius detected minute quantities of fluoride of calcium in the bones and teeth of animals; but, more recently, Dr. G. O. Rees failed to detect it. If fluorine be a normal constituent of the body, it is doubtless introduced into the system in the small portions of the bones of animals occasionally swallowed with their flesh, for it cannot be derived from plants, since it has never been detected in these bodies. It is remarkable, however, that fluoride of calcium is abundant in fossilized bones, and in the human bones found at Pompeii and Herculaneum.

The Change which Extract of Rhubarb Undergoes in Keeping.—It has been observed some time ago, by Mr. Landerer, that old extract of rhubarb, when mouldy, acquires a strong smell of storax. This has been confirmed by M. Reinsch, in case of fluid extract of rhubarb which had been kept for several years in an unopened bottle the extract being covered with a film of mould. This liquid extract was submitted to distillation, and afforded a slightly turbid water, with a great number of small drops of oil. The product of the distillation had a strong smell of storax, and was neutral to test paper. Either, after agitation with it, becomes slightly coloured yellow and acquires the odour of storax; after the evaporation of the ether on a watch-glass, there remains only a few drops of an aromatic oil, smelling strongly of storax, but which is very volatile, so that in about an hour no trace of the smell could be discovered on the glass. This smell of storax in extract of rhubarb, which has become mouldy, arises from the formation of a peculiar oil. There will probably be many more of these oils discovered, originating in the putrefaction of vegetable matter. This oil of rhubarb appears to be analogous to the oil with the smell of musk, discovered by M. Rossignon, in decayed apples, which he has named *maloile*, and which is composed of C H N O.—*Repertorium fur die Pharmacie.*

Oil of Bitter Almonds is a most deadly poison in large doses; it was once extensively used in medicine, and is still very frequently employed by confectioners and others for flavouring custards, puddings, liqueurs, and sweetmeats. The bitter almond is the kernel of the amygdalus communis, a tree which is indigenous to Barbary, and is extensively cultivated both in the temperate parts of Europe and in Asia. It is well known in our gardens, and is distinguished by bearing its flowers before any of the leaves are produced, a circumstance which has been happily alluded to by Thomas Moore in "Lalla Rookh"—

"The hope, in dreams, of a happier hour
That alights on Misery's brow,
Springs out of the silvery almond-flower,
That blooms on a leafless bough."

The sweet and the bitter almond are derived from the same species, and no botanical difference is found to exist between them, although they differ so widely in their taste and other properties. They are in fact only *varieties* of the same *species*; the two plants are said to be convertible into each other—the sweet variety becoming bitter by neglect; the bitter becoming sweet by cultivation; and the seed of either variety producing plants of both. When the bitter almonds are subjected to pressure, they yield a sweet oil, altogether analogous to that produced by sweet almonds; but when the cake of bitter almonds is mixed with water and subjected to the action of heat, a volatile oil passes over of a very peculiar nature, which is the true oil of bitter almonds. This oil does not appear to exist ready formed in the bitter almond, but is produced only when the almond pulp comes in contact with water; for it cannot be separated by any process whatever from the almond, without the cooperation of water. The presence of prussic acid in this oil may be proved by dissolving it with agitation in water, and treating the solution with caustic potash, followed by sulphate of iron and sulphuric acid. The bitter almond acts upon the animal system in the same way as hydrocyanic acid, but it likewise excites at times signs of irritation. The symptoms it produces in animals are trembling, weakness, palsy, and finally stupefaction. Orfila states, that twenty bitter almonds will kill a dog in six hours, if the gullet is tied to prevent vomiting; but if vomiting be allowed, the animal will recover. He also found that six bitter almonds in coarse powder applied to a wound in the thigh of a middle-sized dog caused death in four days. This oil is hardly inferior in activity to prussic acid. A single drop of it applied by Sir Benjamin Brodie on the tongue of a cat, caused violent convulsions and death in five minutes. But if this oil be entirely freed from prussic acid, it is not more poisonous than any other essential oils, though it still retains its characteristic and grateful flavour. As the oil of bitter almonds is very extensively employed in flavouring articles of confectionery, a German writer suggests the propriety of removing the prussic acid from the oil by repeated distillation with caustic potash, which removes the poisonous ingredient, but does not at all injure its other properties.—*Mr. Semple in the Pharmaceutical Journal.*

Preparation of Calomel.—In France and in England medical men almost exclusively employ calomel prepared with steam; it is found to be more active and more certain in its effects. The mode of preparation generally adopted is that of Joseph Jewel, with the modifications made by M. Ossian Henry. It consists in conducting steam, together with the vapour of calomel, into a large receiver. The manufacturing chemists in France follow this process; I have adopted it for many years at the *Pharmacie Centrale*; but am far from being satisfied with it. The operation is difficult to conduct; it requires great expertness of manipulation, and too frequently is attended with accidents, which cause the loss of a great part of the product. Moreover, it must be admitted, that the calomel prepared with steam in France is neither so white nor so finely divided as that which is sent from England. I have now to present, for communication to the academy, a mode of preparation very superior to any other that is known to us. I would not occupy the attention of the learned academy with a simple manufacturing process, if it was not one of a peculiar character, being applied to a product, in the preparation of which we have been unable, up to the present day, to compete with the English manufacturer. For the vapour of water which is interposed between the particles of the vapour of calomel, and which prevents them from uniting, I substitute a current of air, which, passing over the heated calomel, enters the vapour as it forms, and causes it to condense in a subtle powder.* For this purpose, I heat the calomel in an earthen tube, passing through a furnace, and direct a constant current of air through the interior of the tube, by means of a small blower, so as to carry the vapour into a receiver. If the operation be conducted with a straight tube, a part of the calomel might be carried to a distance of more than twenty yards. To obviate this inconvenience, I cause the end of the tube to dip into water, and the calomel is thus wetted and precipitated in fine powder. This kind of termination to the apparatus is all that can be desired. It only remains for me to perfect the process by ascertaining the best form and material for the vessels in which the calomel is heated. I have not been able to meet with such, ready made, as combine the essential conditions, so that I am obliged to defer to another time the complete description of the process; but I may observe, that even my first attempts at the operation have proved quite successful. I think the same principle of operation may be applied to the division of other volatile bodies.—*By M. Soubeiran.—Comptes Rendus.*

BRANDISH'S SOLUTION OF POTASH.

Best American Pearl-ashes	6 pounds
Quick-lime, fresh prepared	
Wood-ashes (from the Ash) of each	2 pounds
Boiling water	6 gallons

Add first the lime, then the pearl-ashes, and afterwards the wood-ashes to the boiling water; then mix. In twenty-four hours, the clear liquor may be drawn off.

Linimentum Hydrargyri Nitratis.—There is a preparation of this name in the Pharmacopœia Mancuniensis, 1827, under the authority of Drs. Holme, Mitchell, Lyon, Carbett, Bradsley, and Hulme; and of Messrs. Simmons, J. Thorpe, Ransome, Ainsworth, R. Thorpe, and Wilson, Surgeons, viz.:—

℞ unguenti Hydrargyri Nitratis ʒiiss.
Carati Simplicis ʒviiss.
Olivæ Olei, fʒv. Misce.

ON THE ACTION OF CARBONATE OF POTASH ON GUM RESINS.

Some years since, Mr. Hulse's attention was drawn to the action of carbonate of potash on myrrh, which induced him to try its effect in reducing other gum resins, and the result was perfectly satisfactory.

With regard to myrrh, if one part of carbonate of potash be added to two parts of myrrh in the lump, and rubbed together, the alkali produces complete saponification; and if to this be added medicated or distilled water, we obtain an elegant emulsion of myrrh, and nearly the whole of the gum resin is retained in suspension, which would not be the case without the aid of the carbonate of potash. If the compound mixture of iron is prepared by triturating the myrrh with carbonate of potash, then with the usual proportion of sugar, using the raw instead of refined, adding first the rose water, then the sulphate of iron, powdered, and, lastly, the spirit of nutmeg, it will

* Dr. Christison alludes to an analogous process in his Dispensatory, which he gives on the authority of Mr. Dann, of Stuttgardt, p. 525.

not be an unsightly mixture, and the precipitate will be very trifling.

Again, in the compound pill of iron, if carbonate of potash in used instead of carbonate of soda, and raw or muscovado sugar in lieu of the refined, a pill mass can be compounded with less trouble than by following the college formula, and which will retain a convenient pilular consistency for any reasonable period.

Take of,

Myrrh in lump, two drachms, reduce it to powder in an iron mortar by

Carbonate of potash, one drachm, then add

Sulphate of iron, powdered, one drachm,

Raw sugar, one drachm. Mix, and beat all into a mass, without any liquid. Attention to this last remark is necessary, for the addition of any liquid renders the mass too soft, the raw sugar being sufficient to bring it to a proper consistence.

The solubility of this pill is such, that after having been made six months, Mr. H. put two pills, of five grains each, into a glass of water, about the temperature of the stomach, and they were completely disintegrated in the course of two hours. If water will thus serve to dissolve these iron bullets, as they are sometimes termed, we may expect the fluid of the stomach would have a much quicker action upon them.

The compound galbanum pill, can be as easily and as readily prepared as the preceding one, and becomes as tractable and as convenient for making into pills as any other mass.

Take of

Myrrh in lump } of each one drachm and a half.
Sagapenum }

Galbanum, one drachm.

Assafœtida, half a drachm. Triturate these with two drachms of carbonate of potash, in an iron mortar, until the whole are sufficiently reduced, add

Raw sugar, two drachms, and beat altogether into a mass, without any liquid, which mass will retain its consistency for any reasonable period.

The pill of aloes with myrrh, compound squill pill, compound rhubarb pill, and other similar preparations, will be considerably improved if made with the assistance of carbonate of potash and raw sugar; but with every other than the compound galbanum pill and compound pill of iron a small portion of water must be used. The raw sugar (saccharum non-purificatum), as an ingredient in compound pill of iron, is decidedly preferable to the refined, which alone will not form a mass. In all pill masses and mixtures containing gum resins, the Pharmacopolist will find it preferable to use ingredients that have been powdered in his own premises.

ON THE PREPARATION OF EXTRACTS.

By the term '*extract*' is meant a medicinal preparation obtained from a vegetable or animal substance by the dissolving action of a proper menstruum, and reduced to either a soft or solid consistence by the evaporation of the solvents. Extracts vary much in their nature, in consequence of the great number of proximate principles contained in the plants and animals from which they are derived, and dependent also in part on the character of the solvent that has been employed. Thus, taking the vegetables for example, extracts are commonly prepared from them either with their juice, or from aqueous or alcoholic infusions: in the first two cases, they may contain the *gum, sugar, salts, vegetable acids, and alcalies, colouring and tannic matters*; while the alcoholic menstruum may dissolve the *saccharine, saline, colouring, and resinous matters*. It must be self-evident that a classification founded on the chemical analysis of the extracts, containing, as they do, a very complicated series of proximate principles, would be both exceedingly difficult and unsatisfactory; to a certain extent, however, the system has been adopted, and these preparations are not unfrequently spoken of under the respective titles of *gummy, gummo-resinous, saponaceous*, and *resinous*, the predominance of one of the principles giving occasion for the name, but it does not at all follow that therefore no other proximate principle is present. Henry and Guibourt, in their Pharmacopée Raisonnée, divide extracts into vegetable and animal, and the former into inspissated juices, aqueous and alcoholic extracts.

Extracts are obtained from plants either by the evaporation of their juices, or by the intermedium of water, alcohol, or ether. In their preparation, the essential point is to obtain the active principle of the plant in solution as free as possible from those that are inert, and afterwards to evaporate this solution to such a degree of dryness, as to preserve the chemical properties and medicinal powers of the drug uninjured. To effect this purpose with the narcotic and some other plants, the process of inspissating the juice is now pretty generally recommended by authors on pharmacy, and there cannot be a doubt that the modification of the plan by the inspissation by spontaneous evaporation, introduced by Dr. Houlton, is a most valuable improvement, and deserving to be universally adopted. Storck, a physician at Vienna, who introduced the extract of cicuta, and other narcotics, as a cure for schirrhus, used to prepare them in a manner essentially different from the process that was then followed. He advised, with respect to the conium, belladonna, aconite, and stramonium, that the fresh juice of the plants should be obtained, and without filtering or any process of depuration, evaporated at a moderate heat, the preparation being kept continually stirred: and he thus obtained extracts far superior and much more active than those in ordinary use. Dr. Houlton was led to modify this process in the following manner: he says, about the year 1805, four years before the herbaceous extracts were introduced into the London Pharmacopæia, I first made the extractum cicutæ, (now the extr.: conii) precisely after the process of Storck, when I accidentally left some juice for some hours exposed to the atmosphere, and found it afterwards inspissated, of a beautiful green colour, and plastic. For a few years I occasionally made a small quantity of extracts in this way, merely on account of the beauty of the preparation, for, as it was not made *secundem artem*, but secundem naturam, I had no idea that it could be worthy the attention of a scientific profession. However, as years rolled on, and I began to think for myself, I determined to try the effects of this spontaneous extract. When I first used it, I do not exactly remember, but from about the year 1824, I have not used any other extract of conium in my own practice, being so well satisfied with its superiority over that of the pharmacopæia. The preparation can be readily made in the following manner:—the expressed juice is to be exposed to a current of dry air, in shallow dishes at the ordinary temperature, the rapidity of the evaporation being in an inverse ratio to the quantity of the juice in each dish: common table dishes answer the purpose very well. The current of air may be produced in any spare room, if the window sash be opened but a few inches, and the door of the room be also kept open; the dishes may be placed upon a common table near the window; if the room be in the upper part of the house, there will be but little dust brought into contact with the extracts. Some chemists seek to aid evaporation, by heating the current of air which is passed over the juice.

The mode of preparing these extracts was first brought before the public in the Transactions of the Society of Arts, for 1826. Soon afterwards they were brought before the Medico-Botanical Society as remedial agents; the process was detailed in some of the medical journals, and is adopted in the last edition of the Edinburgh Pharmacopæia; in Stephenson and Churchill's Medical Botany, they were favourably noticed; the process is also mentioned with approbation in the last editions of Dr. A. T. Thomson's Materia Medica, and of Dr. Christison's Dispensatory. The last named physician says, that extracts thus prepared will keep good for three years at least, and that they deserve to come into general use.

Storck's plan was objected to at the time on the ground that the extracts so prepared contained a large quantity of green colouring matter and albumen, which were probably almost inert; to which he replied, that experience showed that his preparations were the best. He was right; but the value of his extract did not depend on the presence of these inert matters, but on the low temperature at which they were prepared, and the continual agitation to which they were subjected during the evaporation. Henry and Guibourt advise a modification of Storck's plan, which consists in depriving the juices of their colouring matter and the albumen they contain, and then rapidly evaporating, by the aid of a sand-bath, the juice being continually stirred, so as to constantly renew the surface.

The process of evaporation in vacuo has many advocates; it consists simply in placing the juice to be evaporated in an intermediate pan with a covering vessel, having lunettes through which the process may be watched, and tubes for conveying steam. The vessels being strongly secured together, and a division effected between them, steam is let into the upper vessel at a very high temperature, and suddenly condensed by the application of cold water externally; this is repeated until a vacuum is effected, and the partition between the two vessels is then withdrawn, the air in the pan ascending. The admission of steam and its condensation is then to be repeated until the vessels are as completely a vacuum as possible; after which a slight degree of heat will serve to effect evaporation. While speaking of this process, Guibourt observes, that it is applicable only on a very small scale in chemical analysis, or else on a very large one, and has besides, the disadvantage of not destroying the life of organised germs which may exist in the juices, or which have been deposited during the preparation, so that it is not uncommon to see extracts thus made covered with mould, or filled with the larvæ of insects.

Aqueous extracts are prepared either from the cold or the hot infusion or the decoction. The plant from which they are obtained is previously dried, water is employed as the extractive menstruum, when the principal medicinal proximate principles are soluble in it; if resin be the chief ingredient, alcohol must be had recourse to for the preparation of the extract. The water employed should be distilled or rain water, in order to avoid increasing the quantity of the extract by salts foreign to its nature. Guibourt advises that vegetable extracts should be made by infusion and subsequent maceration, in the majority of cases in preference to decoction, the article thus obtained being generally finer, more homogeneous, more soluble in water and alcohol, and a larger quantity being commonly obtained. Cinchona is an exception to this. Whichever way the active principles of the plant are separated, the solutions may be inspissated either by the process *in vacuo* already mentioned, by distributing the solution on a number of flat vessels on a stove, by the heat of water or sand bath, or over an open fire. It may be well to observe that the quantity of fluid should be as small as may be consistent with the perfect extraction of the active matter, and the evaporation should be conducted as rapidly as possible.

Alcoholic extracts, which were formerly but little used, are now more commonly prescribed, because the spirit can dissolve a large number of the active principles, leaving untouched the inert starch and inuline, and thus the medical virtues are contained in a smaller volume. In the *Pharmacopée universelle* of M. Mohr, certain alcoholic extracts of the narcotic plants are mentioned of exceeding power and efficacy. They are prepared with the juice of the recent plant, deprived of its albumen and chlorophyllum by heat, evaporated rapidly in a sand-bath to the consistence of syrup, then mixed with an equal quantity of anhydrous alcohol, which precipitates the gum and a large proportion of insoluble salts, and is finally evaporated to the consistence of extract. These are very powerful. There are very few extracts made with either, and they are best prepared by lixiviation; they are generally composed of fatty or resinous matters, united to some other active principles. The evaporation of the alcoholic and etherial extracts is so conducted at first, as to recover as much as possible of the menstruum, and the remaining liquor is cautiously evaporated in a water-bath.

The extracts of conium and hyoscyamus should be made from the plant when just come into flower, or soon afterwards. The plants are never better for extract than when they just come into flower; from that period the lower leaves begin to die, and one week will deprive the plant of some of its best leaves, or render them of very little use for medicinal purposes.

The extract of Taraxicum should be made from the expressed juice of the roots taken up in the autumn. It is important that this juice should be quickly inspissated; if left for twenty-four hours in a basin, it will show symptoms of fermentation at the circum-

ference, and will then resist the process of inspissation strongly; and even if overcome by management, the extract will have an acetous odour, and will not keep well. If the extract has an acid odour, it is a sure proof that the process has not been carefully conducted. It is highly important that the roots should be fresh from their native localities. If they have been taken up and kept in sand for several weeks before they are used, they will not realize the expectations of the manufacturer. Good extract of Taraxicum should be plastic, saponaceous, and slightly bitter.

The various modes of preparing extracts just mentioned, by decoction, by evaporation of the expressed juice, by heat and by spontaneous evaporation, were not unknown to the ancients, as the following extracts from the work of Dioscorides will shew. With respect to the preparation by *decoction*, when speaking of gentian, he observes, "Contusa radix quinque diebus aquâ maceratur; postea in eadem tantisper decoquitur, dum extent radices: et ubi refrixit aquâ, linteo excolatur: mox discoquitur, dum mellis crassitudo fiat, fictilique reconditur:—*evaporation by heat:* the cyclamines:—exprimitur tusa radice succus, et ad mellis crassitudinem decoquitur:—*spontaneous evaporation:*—the chelidonium:—foliis, caule, radice, succus exprimitur, ineunte æstate, et siccatus in umbrâ, digeritur in pastillos. A similar process is advised for preparing the extracts of conium, hyoscyamus, and solanum.

MEDICAL NEWS.

Royal Society.—*On the Nerves, by James Stark, M.D.*—The author gives the results of his examinations, both microscopical and chemical, of the structure and composition of the nerves; and concludes that they consist, in their whole extent, of a congeries of membranous tubes, cylindrical in their form, placed parallel to one another, and united into fasciculi of various sizes; but that neither these fasciculi, nor the individual tubes, are enveloped by any filamentous tissue; that these tubular membranes are composed of extremely minute filaments, placed in a strictly longitudinal direction, in exact parallelism with each other, and consisting of granules of the same kind as those which form the basis of all the solid structures of the body; and that the matter which fills the tubes is of an oily nature, differing in no essential respect from butter, or soft fat, and remaining of a fluid consistence during the life of the animal, or while it retains its natural temperature, but becoming granular or solid when the animal dies, or its temperature is much reduced. As oily substances are well known to be non-conductors of electricity, and as the nerves have been shown by the experiments of Bischoff to be among the worst possible conductors of this agent, the author contends that the nervous agency can be neither electricity nor galvanism, nor any property related to those powers, and conceives that the phenomena are best explained on the hypothesis of undulations or vibrations propagated along the course of the tubes, which compose the nerves, by the medium of the oily globules they contain. He traces the operation of the various causes which produce cessation in giving rise to these undulations, and extends the same explanation to the phenomena of voluntary motion, as consisting in undulations, commencing in the brain, as determined by the will, and propagated by the muscles. He corroborates his views by ascribing the effects of cold in diminishing or destroying both sensibility and the power of voluntary motion, particularly as exemplified in the hybernation of animals, to its mechanical operation of diminishing the fluidity, or producing solidity, in the oily medium by which these powers are exercised

Experimental Researches in Electricity (18th series), by Michael Faraday, Esq., section 25. On the Electricity evolved by the Friction of Water and Steam against other Bodies.—The object of the experiments related in this paper is to trace the source of the electricity which accompanies the issue of steam of high pressure from the vessels in which it is contained. By means of a suitable apparatus, which the author describes and delineates, he found that electricity is never excited by the passage of pure steam, and is manifested only when water is at the same time present; and hence he concludes that it is altogether the effect of the friction of globules of water against the sides of the opening, or against the substances opposed to its passage, as the water is rapidly moved onwards by the current of steam. Accordingly it was found to be increased in quantity by increasing the pressure and impelling the force of steam. The immediate effect of this friction was, in all cases, to render the steam or water positive, and the solids, of whatever nature they might be, negative. In certain circumstances, however, as when a wire is placed in the current of steam, at some distance from the orifice whence it has issued, the solid exhibits the positive electricity already acquired by the steam, and of which it is then merely the recipient and the conductor. In like manner, the results may be greatly modified by the shape, the nature, and the temperature of the passages through which the steam is forced. Heat, by preventing the condensation of steam into water, likewise prevents the evolution of electricity, which again speedily appears by cooling the passages so as to restore the water which is necessary for the production of this effect. The phenomenon of the evolution of electricity in these circumstances is dependent also on the quantity of the fluid in motion, more especially in relation to its conducting process. Water will not excite electricity unless it be pure; the addition to it of any soluble salt or acid, even in minute quantity, is sufficient to destroy this property. The addition of oil of turpentine, on the other hand, occasions the development of electricity of an opposite kind to that which is excited by water, and this the author explains by the particles or minute globules of the water having each received a coating of oil in the form of a thin film, so that the friction takes place only between that external film and the solids, along the surface of which the globules are carried. A similar, but a more permanent effect is produced, by the presence of olive oil, which is not, like oil of turpentine, subject to rapid dissipation. Similar results were obtained when a stream of compressed air was substituted for steam in these experiments. When moisture was present, the solid exhibited the negative, and the stream of air positive electricity; but when the air was perfectly dry, no electricity of any kind was apparent. The author concludes with an account of some experiments in which dry powders of various kinds were placed in the current of air; the results differed, according to the nature of the substances employed, and other circumstances.

On the Structure and Mode of Action of the Iris: by C. R. Hall, Esq.

After reciting the various discordant opinions entertained at different periods by anatomists and physiologists, relative to the structure and actions of the iris, the author proceeds to give an account of his microscopical examination of the texture of this part of the eye, in different animals. He considers the radiated plicæ, which are seen on the wen in mammalia, as not being muscular; but he agrees with Dr. Jacob in regarding them as being analogous in structure to the ciliary processes. The white lines and elevations apparent on the anterior surface of the human iris, he supposes to be formed by the ciliary nerves which interlace with one another in the form of a plexus. The iris, he states, is composed of two portions; the first consisting of a highly vascular tissue, connected by vessels with the choroid, ciliary processes, sclerotica, and cornea; and abundantly supplied with nerves, which, in the human iris, appear, in a front view, as thread-like striæ, and which are invested on both surfaces, by the membrane of the aqueous humour. They are more or less thickly covered with pigment, which, by its varying color, imparts to the iris on its anterior surface its characteristic hue, and, by its darkness on the posterior surface, renders an otherwise semi transparent surface perfectly opaque. The second component portion of the iris consists of a layer of concentric muscular fibres; which fibres, in man and mammalia generally, are situated on the posterior surface of the pupillary portion of the iris; but which, in birds, extend much nearer to the ciliary margin, and consequently on a much broader layer. In fishes and some reptiles they do not exist at all. The author then proceeds to inquire into the bearings which these conclusions may have on the physiology of the iris. He thinks that the phenomena of its motions can receive no satisfactory explanation on the hypothesis of contractility alone, or that of the antagonism of two sets of muscular fibres, the one for dilating, the other for contracting the pupils. He is convinced that the contraction of the pupil is the effect of muscular action; but does not consider the knowledge we at present possess sufficient to enable us to determine the nature of the agent by which its dilatation is effected. He, however, throws it out as a conjecture, that this latter action may be the result of an unusual degree of vital contractibility residing either in the cellular tissues, or in the minute blood-vessels of the iris. It is from elasticity, he believes, that the iris derives its power of accommodation to changes of size, and its tendency to return to its natural state from extremes either of dilatation or of contraction; but beyond that, elasticity is not concerned in its movements.

Westminster Hospital.—*Operations and Clinique of Mr. White – Lithotrity—Tracheotomy.—Saturday, March 4, 1843.*—Mr. White introduced into the theatre the patient referred to in our last number in the clinical lecture of Mr. Guthrie, and in calling the attention of the pupils to the case, made some highly interesting and valuable practical observations on the subject of lithotrity. As the patient had already undergone one operation in presence of the pupils, Mr. White did not require to enter again into the history of the case. He referred, however, to the curious fact which that previous operation disclosed, viz., of a *pin* which formed the nucleus of the stone, and which the pupils had seen extracted along with a great mass of the calculus at the former sitting. How the pin got into the bladder was a subject of varied conjecture, but nothing certain was known upon the matter. Since the last operation the patient has passed a large quantity of the *debris* of the stone. In passing some of the fragments a little pain was experienced, and one of the pieces actually stuck in the urethra, and was thrust back by his colleague, Mr. Guthrie, into the bladder. That fragment consequently was still in the bladder, and Mr. White had reason to believe that there were other pieces that required to be broken down and pulverised. The learned gentleman then proceeded to demonstrate and explain the steps of the operation. The position of the patient best adapted for the operation (the recumbent) was exhibited; the mode of injecting the bladder was also shown. In the hands of Mr. White the silver catheter, through which the water is conveyed into the bladder, is converted into a sound, and by the ingenious application of a *sounding board* fixed to the end of the catheter like a handle, the contact of that instrument, with the smallest portion of the calculus is at once perceived. Having satisfied himself that fragments of stone existed in the bladder, Mr. White withdrew the sound, and easily and smoothly introduced the crusher. Mr. White carries the instrument into the lowest part of the bladder, then separates the blades of the instrument, and, by a slight vibratory motion, imparted to the instrument, the calculus is placed between its blades, and immediately seized. This part of the operation was effected with great facility, and several pieces, in succession, of the calculus, in a few seconds, were broken and crushed. A large portion of the pulverised stone was brought away between the blades and teeth of the crusher, and the remainder left to be evacuated with the urine. The operation of lithotrity is a glorious triumph of surgery, and demonstrates the railway speed at which surgical science is progressing. After the performance of the above operation, Mr. White visited his patients of the hospital, and among some interesting cases which he, in a few but pointed sentences, explained to the students that thronged around him, he particularly directed their attention to a case of tracheotomy that had recently been performed. The case was one of no ordinary nature. The female was brought, a few days ago, into the hospital, labouring under chronic bronchitis, and placed under the care of Dr. Roe; yet, notwithstanding the indefatigable exertions of this eminent physician, the difficulty of breathing gradually increased, probably from supervening ulceration of the glottis, till she appeared at the point of death. In this predicament Mr. White was sent for, and from the urgency of the symptoms, hesitated not for a moment the opening of the trachea. The operation was performed in the usual way, in the mesial line of the neck, between the thyroid body and the sternum,

and as soon as the trachea was opened the patient awoke, as if by magic, into new life. The eye, the complexion, and expression of the face, were immediately improved. The breathing was now free, and a smile of gratitude seemed to lighten up the countenance of the patient. To keep the opening in the windpipe of the patient, a tube was introduced into the aperture, and through which the patient breathed, and apparently with perfect comfort. About twenty-four hours after the operation the difficulty of breathing began to return, and ultimately became so urgent that the house-surgeon, Mr. Brock, had no alternative but to remove the tube, or see the patient expire. Mr. White passed a warm encomium upon Mr. Brock for acting as he had done, and referred to cases that had been lost by neglecting to adopt this precaution. As soon as the tube, which had been partially closed with mucus, had been withdrawn, freedom of respiration returned, and the improvement has gradually advanced to the present state, when the patient now breathes through the natural passage, and is proceeding satisfactorily to perfect health.

The Royal Medico-Chirurgical Society — At a meeting held on the 28th ult., the President in the chair, the following papers were read:— *On Fatty Degeneration of the Arteries, by* Geo. Gulliver, Esq., F. R. S., (*Communicated by Dr. Hodgkin.*) The author, remarking how vulgarly the epithets atheromatous, and similar ones have been applied by pathological writers to diseased arteries, and that the morbid deposit between the middle and inner coats, and in the substance of the former, has not, as far as he knows, yet been submitted to precise examination, gives the result of his own observations, from which it appears that the disease is really of a fatty nature. A microscopic examination of it brings into view a multitude of crystalline plates, fatty globules with albuminous and earthy particles. Several specimens of the crystals were sent for examination to Dr. Davy, who ascertained that they are of cholesterine. The fatty matter is easily extracted by boiling alcohol, and the chrystals of cholesterine are seen to be deposited as the solution acts. The author has examined numerous specimens of the diseases, and never failed to observe these crystals and the fatty globules in the deposit, and also generally in the substance of the altered middle coat. The microscopical characters are given in the two figures. The accuracy of Dr. Davy's observations, (see his researches Phy. and Anat., v. 1, p. 372 and 436), as to the thinning &c. of the middle coat of the artery is confirmed by Mr. Gulliver. The importance of fatty degeneration of the coats of the arteries is insisted on, especially as to its general connexion with thickening and puckering of the inner membrane, with aneurism, with obstruction, occlusion, or ossification of the vessels, and with those ruptures of them which are frequently the cause of sudden death. In a note the author adds that fatty degenerations are more common and of more importance than has yet been supposed. He mentions obstruction by fatty particles of the seminal tubes; and notices fatty degeneration of the blood, lungs, &c. The disease he describes as being more remarkable in "brown consolidation" of the lungs than in red consolidation; and these two diseases are described as affording distinct morbid product.

A Normal and Abnormal Conscious State, alternating in the same individual:—by John Wilson, Esq., M.D., Physician to the Middlesex Hospital — This case occurred in a boy, aged 14, a patient in the Middlesex Hospital, who was said to have complained of head-ache for two or three days, but whose appearance was healthy. For three or four days his appetite was inordinate, seizing upon any articlea of food he could meet with in the ward, though allowed full diet. When not eating or seeking for food he generally slept night and day. This abnormal state continued for three or four days when he recovered his natural state of sleep, appetite and consciousness. Then he had no recollection of what he had done, or of what had happened to him since his admission. He was shortly afterwards discharged, but was twice re-admitted, presenting each time, the same symptoms, viz., alternations of consciousness and unconsciousness. No treatment was adopted. The author for the present reserves his opinion and the inference he draws from this case; his object being to invite further examination for similar cases, and when that arives then will be the time for discussion.

Remarks on the Calculi in St. George's Hospital. — By Dr. Bence Jones—Communicated by Mr. C. Hawkins.—The number of specimens submitted to examination was 233. The author's object from the analysis of these Calculi, is to arrive at conclusions with regard to the comparative frequency of different states of the urine in calculus complaints; and thus to obtain practical hints as to the efficacy of remedies intended to alter the secretion, or act upon the stone in the bladder. He presents several tables: and taking 450 states of the urine inferred from the composition of the calculi, finds that in 139 it was alkaline, and in 311 acid, to the test paper. Omitting from the latter list 59 specimens of the oxalite of lime, 252 cases of the uric acid diathesis remain: and in 117 of these no free acid was passed, from which the author concludes that alkalies would have been of no benefit in them, so far as neutralizing acidity of the urine was concerned. Taking the cases in which the alkaline concretions prevailed, he infers, that in 52 the calculus might have been lessened by the injection of dilute acids, and in 12, the whole calculus might have been removed; while in others to which he refers, disintegration might have been effected. He concludes by describing a calculus in the possession of Mr. Hawkins, the nucleus of which consists of cystine, and which, from the history appears to have been formed when the patient was $2\frac{1}{2}$ years of age.

Case of Ulceration of the Internal Jugular Vein, communicating with an abscess: by Mr. Bloxam, Surgeon to Queen Adelaide's Lying-in-Hospital, and Lecturer on Midwifery, (Communicated by Samuel Lane, Esq.)—The patient, five years of age, after an attack of scarlet fever, had suppuration of the glands of the neck of the right side, near the angle of the the jaw. Five days after, the abscess burst, blood of venous character was discharged from the opening at first in small quantity, and afterwards more copiously. Graduated compresses were applied, but the hæmorrhage could not be restrained, & the child died on the fifth day from the commencement of the bleeding. On dissection an ulceration of an oblong shape, about five lines in its long axis, was found in the inner side of the internal jugular vein, and opening immediately into the sac of the abscess. Extravasated blood was also observed beneath the integuments of the throat and forepart of the chest.

The Pharmaceutical Society.—At a meeting of the members of this society, on Wednesday evening last, the president addressing the meeting said, that this was the first meeting since the society had obtained a charter of incorporation, by virtue of which it had become acknowledged by the law of the land, and thereby its political situation was materially altered. The preamble of the charter stated, that Her Majesty, with the consent of her advisers, had been induced to grant this boon, believing that the association would be the means of advancing the arts of Chemistry and Pharmacy: and of thus contributing to the welfare of the public interests. Now, whatever might have been the motives which had induced gentlemen to join this association, or might hereafter lead them to associate with it, this must be remembered—that they were pledged to do all in their power to elevate the profession to which they belonged, and to show themselves, in this way, deserving of the boon conferred upon them. He hoped it would not be thought by any of them, that, having arrived at this satisfactory point, their work was done. He for one did not think so, and he trusted that no man did; but, on the contrary, he felt called upon to employ every means in his power to carry out the great end the society had in view. He hoped that that object would be fully borne in mind; that it would not be considered, by the members of this society, sufficient to have three or four letters placed at the end of their names, unless they could do so with credit and honour to themselves. The meetings of this society would doubtless be the means of advancing the great object it had in view, and this ought to be a stimulus to a frequent and regular attendance at them. The council were most anxious, always, to cater for the enjoyment and improvement of the members, but they must look to the members themselves for an opportunity of so doing. He was very happy to say that competent judges had expressed themselves exceedingly pleased with the papers that had been read at the meetings of this society, from time to time. He hoped that the members of this society would always be disposed to speak and to act towards other corporate bodies with due deference and respect; but he would say this publicly, inasmuch as the government of this country, in their wisdom, had thought proper to recognise this society as an integral part of the medical profession,—he expected—and he hoped it was no more than he had a right to expect—that other corporate bodies—more especially the College of Physicians—would manifest the same disposition towards this society. This meeting would bear witness that he was a strong advocate for the strict observance of forms belonging to the authority of the land; but it was no more than right to expect that those forms would be of a scientific character and of practical utility; and whilst he and the members of this society would be quite willing and quite anxious to pay deference and respect to those who, by their education and station, were supposed to be best able to superintend such matters rather than matters of practical utility; in his humble opinion, practical matters were best left to the practical men, such as he hoped he should ever find the members of the Pharmaceutical Society. The mere possession of a long purse and an university education, whatever influence it might formerly have possessed, he was happy to say, was not now sufficient to constitute real distinction or confer honour. Every Englishman—every British tradesman if he was a man of respectable character and devoted himself to the advancement of that occupation in which he was engaged, was entitled to be regarded as a British gentleman.

At this meeting three papers were read. The first was by Mr. Hooper, on "The Preparation of Extracts by Spontaneous Evaporation assisted by a Current of Dry Air." The second, "On Certain Precautions Necessary in Using Chemical Tests," by Mr. Howard, of Stratford. And the third, "On the Preparation of the Syrup of Poppies by Cold Water." Mr. Hooper, in his paper on the preparation of extracts, observes that, according to the directions for making extracts in the *London Pharmacopœia*, the leaves of the fresh plants are to be sprinkled with a little water, and boiling water is to be poured on the recent roots, which are to be macerated twenty-four hours; after which a decoction is to be made and evaporated at a boiling temperature. He doubts the expediency of this method for the following reasons:— First, by sprinkling water on the leaves the amount of fluid to be evaporated is increased, as the water, as well as the juice, must be got rid of by evaporation; secondly, the maceration accelerates acetous fermentation; and thirdly, the boiling temperature tends to destroy and impair the proximate principles of the plants. He has tried many arrangements and various temperatures, and he is convinced, that by inspissating the expressed juice by a current of dry air, extracts may be produced of a more uniform character than arises in ordinary use, and that their quality is far superior. The dose is the same as that for the pharmacopœial preparation. The process he employs he conceives has these advantages—That it augments the current of air by which the evaporation is promoted; the moisture, as it escapes, is absorbed by sulphuric acid placed in trays alternately with those containing the juice; and by moderately warming the current of air, and keeping the shelves of the apparatus in constant motion, the evaporation is further expedited. He describes the apparatus, which is a very ingenious contrivance. We shall notice the other papers next week.

Punished Quackery.—A lamentable instance of the effects of empiricism was disclosed yesterday, before the Tribunal of Correctional Police. A man named Meulen, a native of Germany, and formerly a grocer's shopman, was tried for the illegal

practice of medicine. One of the victims, whom he attended for a cold, and reduced by his medicines to a helpless and incurable state, appeared as a witness against the offender, who was found guilty and sentenced to a fine of 500 francs.

Brentford Medical Association.—A full attendance of the members of this association took place on Thursday, 2nd March, when a paper, read by Dr. Day, the president, on Fever, was the subject of an interesting discussion. We are told that this association promises to be highly beneficial to its members by encouraging the diffusion of medical information and the discussion of scientific subjects.

PREPARATIONS OF IRON.

Experiments undertaken for the purpose of rendering more perfect the preparations of iron used in medicine, have led me to the discovery of several ferruginous products not yet studied, or but little known. I shall make known the more prominent properties of these products, so as to complete what I have already published on ferruginous compounds in general, and on the citrates of iron in particular.

Sesquicitrate of Iron.—The citrate of the sesqui-oxide of iron is obtained in transparent laminæ, of a beautiful garnet hue.

Protocitrate of Iron.—The citrate of the protoxide of iron is prepared by treating iron filings with citric acid previously dissolved in distilled water. This salt is white and pulverulent, and but slightly soluble. It is rapidly coloured by light, and by the action of moist air its composition is modified, the iron passing to a higher degree of oxidation. This citrate, like the other protosalts of iron, has a strongly marked chalybeate taste.

Citrate of the Magnetic Oxide of Iron.—Combined with the magnetic oxide of iron, citric acid furnishes an uncrystallizable salt, of a green colour, and susceptible of being formed into transparent laminæ. This salt is soluble and very active, but as its taste is decidedly chalybeate, it is on this account objectionable for internal use. It is remarkable, that its solution does not alter, but preserves its green colour, although exposed to the prolonged action of the atmospheric air.

Citrate of Iron and Quina.—The citrate of iron and quina is a new salt, which was required as a therapeutic agent. This medicine is formed by the combination of four parts of citrate of iron, with one part of citrate of quina. It is obtained in the form of transparent laminæ, soluble, very bitter, and of a garnet hue. This salt is best adapted for administration in the form of pills, on account of its great bitterness.—

SYRUP OF TANNATE OF IRON.

Take of

Simple syrup . . .	375 Parts.
Syrup of Vinegar .	125 "
Citrate of magnetic oxide of iron	10 "
Extract of galls	4 "

Mix and form into a syrup.

The iron in this preparation is in the state of the magnetic oxide united with an acid. It is soluble, tasteless, and susceptible of useful applications.—*M. Beral.*

PROCESS FOR THE PREPARATION OF ULTRAMARINE.

Take of

Fine clay, powdered and sifted .	100 parts.
Gelatinous alumina, representing of the anhydrous	7 "
Carbonate of soda, dried, 400 parts, or crystallized	1075 "
Flowers of sulphur . . .	221 "
Sulphuret of arsenic . . .	5 "

The mixture of these substances must be made with great care.

Into the carbonate of soda, liquified with its water of crystalization, throw the sulphuret of arsenic in powder, and when this latter substance is partly decomposed, add the gelatinized alumina (this alumina is obtained from the alum of commerce, precipitated by carbonate of soda—the precipitate collected on a filter, and washed once with river water). Afterwards add the clay and the flowers of sulphur previously mixed. This mixture, reduced by the heat, is put into a covered crucible, carefully heated, to drive off the remaining water, then raised to a red heat. The fire should be so managed as to agglutinate, but not to melt the mass. After allowing it to cool, it must be again heated to drive off any remaining sulphur; it must then be broken and rubbed down with river-water. The powder held in suspension in the water is collected on a filter. When the mixture has been well made, the whole of the product may be used; but in case the combination has been imperfect, there will be found a number of colourless particles, or when the heat has been carried to complete fusion, there will be some fragments of a brown colour, especially when the crucible is of a bad quality, and has been much acted upon. These results never occur when the operation is conducted with care. The filter should be allowed to drop without further washing the powder, and the latter is then to be dried. The product will be of a beautiful soft green colour, which afterwards becomes blue.—*By M. J. De Tiremon.*

Manufacture of the Oil of Vitriol from Iron Pyrites.—The manufacture of Sulphuric Acid and Soda is carried on conjointly, in a factory at Belgium, in the following manner:—The residue of the roasted pyrites are mixed with an excess of sea salt, having previously ascertained the contents of sulphate of iron contained therein. The mixture is then heated in an appropriate furnace, arranged so as to collect the muriatic acid. The sulphate of soda formed is obtained by solution and crystallization; the peroxide of iron remaining is separated by elutriation into two parts: the most finely divided is dried and mixed with grease or palm oil, serving as a lubricator for machinery, for which it is admirably adapted; whilst the coarser portions are made into balls, dried, and used as a mineral iron for the puddling furnace. In factories where soda is not made concurrently with sulphuric acid, in place of procuring the sulphate of iron from the roasted pyrites, it will be more advantageous to distil these residua; the sulphate of iron being first dried, so as to obtain the fuming sulphuric acid of Nordhausen, as it is termed. It would be very easy to arrange the apparatus in such a manner that the sulphurous acid, arising from the decomposition of part of the sulphate of iron, should be conducted into leaden receivers or chambers. By such an arrangement, nothing would be lost, since the colcothar or peroxide of iron remaining after the process has been completed, is always available.

Oxidation of Alcohol by Chromic Acids.—Chromic acid, as well as other substances, (for instance, spongy platina), converts alcohol into a liquid containing aldehyd, lampic acid, ethereous acid. If some dry chromic acid be thrown into absolute alcohol, it becomes suddenly red-hot, is reduced to protoxide; and, if the alcohol be only in very small quantity, it takes fire. Absolute alcohol, mixed with sulphuret of carbon, takes fire on the admission of the slightest trace of dry chromic acid; whilst sulphuret of carbon alone is scarcely affected by it. These experiments have been made with common chromic acid; that is to say, chromic acid contaminated with sulphuric acid, according to Tritsche's method.

Hæmatoxylin.—Dr. Schunk has read to the British Association, a paper "on Hæmatoxylin, the Colouring Principle of Logwood," by Prof. O. L. Erdmann, of Leipsic. The Hæmatoxylin used by the author in his experiments, was prepared by the process of charcoal. In a state of purity, Hæmatoxylin is not red; it is in itself no colouring matter, being merely a substance capable of producing colouring matters in a manner similar to lecanorin, orcein, or phloridzin. The colours which it produces are formed by the simultaneous action of bases (particularly strong alkalies), and of the oxygen of the atmosphere. By the action of these it undergoes a process of eremacausis, which, after forming colouring matters, ends in the production of a brown substance resembling mould; the colour of Hæmatoxylin varies from a pale reddish yellow to a pale honey colour. The crystals are transparent, possess a strong lustre, and may be obtained a few lines in length. Their form is a rectangular four-sided prism, sometimes with a pyramidal summit. The taste of Hæmatoxylin is similar to that of liquorice. With excess of ammonia, it forms what the author calls Hæmatein, analogous to orcein, &c.

Ether from Organic Acids.—M. Gaultier de Claubray has succeeded in procuring Ether from Organic Acids, by the use of heat: his process is to add alcohol, drop by drop, to the hot acids.

Constitution of the Sulphates.—Mr. Graham, F.R.S., has communicated to the Chemical Society, certain experiments "On the Constitution of the Sulphate as illustrated by late Thermometrical Researches," which he considers sufficient to demonstrate that no heat is evolved in the formation of double sulphates; and that their compounds are formed at once on mixing the solutions of their constituent salts, whether precipitation occurs or not. Sulphate of potash and water are, therefore, equivalent in the constitution of such salts, or *equi-calorous*, if a term may be coined to express this relation.

Chrystallization of Salts.—M. Longchamps has published some experiments tending to show that *all* Salts expand in the act of Chrystallization; and that the apparent contraction which often takes place arises from loss of heat in the solution.

Pure Boracic Acid.—The usual method of preparing boracic acid consists in decomposing borax by means of sulphuric acid; but the boracic acid thus obtained is always contaminated with a certain quantity of the sulphuric acid used in its preparation. M. Wakenroder has pointed out a better method, as follows: dissolve forty parts of borax in one hundred parts of boiling water, and add twenty five parts of hydrochlurie acid to the solution while hot. Collect on a filter the boracic acid, which will crystallize on the cooling of the liquor, wash it a few times with cold water, allow it to drain, re-dissolve it in a little hot water, and crystallize it a second time. Wash the crystals with a little cold water and press them between folds of filtering paper. The mother-water and the washings of the crystals may be evaporated so as to afford a further quantity of the acid. This boracic acid, when dry, will still retain a trace of free hydrochloric acid, which may be driven off with a part of the water of crystallization by drying the acid at a temperature of about 234° Fah. After this operation the acid is pure.

OUR INTENTIONS.

This volume will be concluded with the second weekly number after this, when we shall commence giving a short course of lectures on Organic Chemistry, by one of the very first of British practical chemists. Dr. Marshall Hall's course on Diseases of the Nervous system, will be terminated in our next number. If this course offer much that is extraordinary in treatment, and little that the judicious medical man will adopt into practice without suspicious solicitude, it will at least have gratified the avid curiosity roused by bold claims to grand discoveries, claims alike supported and resisted with equal pertinacity, though not with equal temper or reason. The course by Serres, on Organogeny—the most novel and important published in any journal for a very long period—will be concluded in about five more numbers. We shall continue the course of lectures on the Practice of Physic, by Dr. C. J. B. Williams, F. R. S., till the whole series be given. They are specially reported for us by Mr. Gregory, the short-hand writer, and may be depended upon by the general practitioner as containing the experienced and well-reasoned lessons of one of the most practical, judicious, and deep-thinking physicians of the age. Our Pencillings of Eminent Medical Men will be continued as usual; and our attention to the improvements every day being made in Pharmacy, Surgery, and Medicine, will certainly not be abated, by the triumphant success, every day augmenting, which has crowned our past labours in behalf of the amelioration and well-being of our noble profession

TO CORRESPONDENTS.

Our druggists' price list will appear next week, as well as the conclusion of our article on the Quack and Patent Medicines.

Our Correspondents' indulgence is craved: they are unavoidably postponed till next week.

THE MEDICAL TIMES.

SATURDAY, MARCH 11, 1843.

"Invitus ea tanquam vulnera attingo, sed nisi tacta, tractataque sanari non possunt."—LIVY.

WE have more than once recorded our opinion in emphatic condemnation of the timid and disingenuous policy *publicly* pursued by the ruling authorities of the Pharmaceutical Society. We complained—and with the force that truth gave us—that while the great bulk of the individual member's opinions were at once so well known and decided, yet that no one could pronounce what were the principles of the Society itself; and expressed a suspicion that though external influence had forced the heads and members into conjunction, they had only mutually to explain themselves to be again thrown into a state of repulsion and separation. Starting on the well-*understood* — (for how say, *avowed*, where nothing is avowed but ambiguity?)—starting, we say, on the well-understood principle of protecting druggists' interests, the chiefs have identified themselves with a knot of exclusive physicians, and have catered, and not vainly, for the support of some general practitioners. Now allowing much as we may--and we have never scrupled to allow much in the way of admirable *intentions*,—we cannot yet blind ourselves to the evident fact that a society so formed, and so acting, must either have no principles at all as a governing public body, or must with a tortuous and timid policy that can invoke no good man's praise, have completely compromised them. Such heterogenous materials, we have felt, could not have commingled without some loss of their originally distinguishing elements. That loss has not been on the part of the foreign bodies introduced. It has been that of the Society which has not yet dared to make a plain profession of its faith, and which when once obliged to act, and so in some measure demonstrate its principles, (*and it soon must act*) will not, we consider, be able to advance one step without dissipating some pretty bubble of elate expectation, which, if it has not itself raised, it has at least allowed unchecked to be blown, and casting from it in its onward course, in rapid succession, the numerous supporters, whose connection has been all along maintained but by the feeble tie of a delusive hope.

We may not have been right in these opinions. Time, the great teacher in that case will convict us of error; but we have sincerely entertained them: and the recent concession of a charter to the Pharmaceutical Society, in no way influences us to change them. We have never doubted the probability of such an event, but what we have strongly doubted, and what we still doubt is, the probability of that event giving a stability to the society it did not possess before, or giving to a body with the elements of disjunction and weakness essentially within it, the power and permanency of a true cohesion and unity.

A short description of the new charter, with a few words on the character of its provisions, as they have been made known to us from an authentic source, on which our readers may entirely rely, will serve to confirm the truth of our prognostications.

The charter in the first place leaves the Society a perfectly voluntary one. Any one may now, as before, vend or dispense medicines without the sanction of, or connection with, the chartered body. The diploma cannot be made a *sine qua non* to chemists and druggists without an act of Parliament. The *government* is declared to be in the hands of the President, Vice President, Treasurer, and eighteen other membeas. The election is in the members, but they are restricted each year to re-elect one third of the passing year's council, and the Committee elect the President, and Vice President, and Treasurer, from their own body. The quorum of the Council is to be seven, the meetings monthly. They have the power, as they had before, of making bye-laws for their own members, and they may sue and be sued. In one word, the Society is just what and where it was. The Queen has done what we and the world had done long before, recognised the *existence* of such a body as the Pharmaceutical Society. We have now what we had not before, her gracious sign manual for the fact that there is such an association!

The only use then of their diploma is its *honour*, as the only use of this Society to the great bulk of the members is its diploma.

We confess that with eyesight the most charitably microscopic, we cannot discover the *honour* of a diploma which is possessed by three or four thousand gentleme, merely because they have been found in practice, as chemists and druggists, in the year of grace 1842. Such a circumstance pre-supposes nothing of high character, morally, mentally, or scientifically, which can tend to give honour to the possessors of such a document. If it be no honour, where is its utility?—and where, consequently, the honour or utility of membership in the Society which gives it? We say this out of no enmity to the Pharmaceutical Association. As conducting a Medical Journal—still less, if possible, individually—we have no interest in the destruction of that body. If it would only boldly declare itself, the thing to be desiderated would be its flourishing existence. But, looking with the eye of attentive observers, we are bound to point out the course of coming events, as necessitated by the circumstances before us. We prophecy as we see, and if our prophecies are not the speakings of reason, they are certainly not those of hope. If we are wrong, time—we repeat it—will convict us of error. His recent course, however, has been in another direction.

One word on the possession of the diploma, as indicating the permanency of the Association. If two guineas, the price of one year's membership, shall purchase a diploma, why shall more years of membership be uselessly paid for? Does the Council think that it has such a property in the diploma, that it can recall it? If not, does it fancy that three or four thousand gentlemen will voluntarily pay six or eight thousand guineas, year after year, without any corresponding *quid?* We tell it, that after the diplomas are given, the members will secede, and we tell it further, that it will vainly apply to Chancery for injunctions against non-members using diplomas so acquired. The diplomas wi'l evidence a fact—the fact of a prior membership; and if there be no humiliating contracts specially and formally entered into for their return (the notion is absurd), no court of law or equity would or could intervene. The diploma, at present, is the *foundation* of the Society. The Council cannot too soon look out for a better.

"Exciseman—one who filches in the name of the law."
JOHNSON.

THE recent Excise prosecutions of chemists and druggists, for vending spirits, have caused a perfect consternation through the trade. No less than five hundred informations have been laid against as many druggists, and twenty-five have been amerced in fines of £50 each.

Now, there are two positions which may fairly be taken—one of which will not please the Excise gentry; and the other, probably, the higher-toned and more ardent sticklers for pharmaceutical privileges,—viz., first, that the druggists have been clearly in fault, when regard is paid to the state of the *law;* and, secondly, that the Commissioners have been still more in fault, when attention is paid to the state of *practice.*

Two things are necessary to sell any kind of spirits—a license, and a conspicuous public declaration of the fact of such vending. There is but one exception—the sale of spirits as a medicament. Alcohol, spirits of wine, are terms that are found in every Pharmacopœia, and if the pharmaceutist may not vend them for purely medical purposes he may forthwith shut up shop. So far, all parties are in perfect agreement. Nay, they agree further. If a druggist vend spirits of wine with the sincere notion that they are to be applied medicinally, and they are bought for another purpose—it is admitted that he is exempt from any penalty. His *bona fides* shall save him in the illegality.

But the usual, or at least a very frequent, purpose for which spirits of wine are sold, is for household purposes:—feeding lamps, scouring plate, making varnish. Now, there is no disguising the plain fact that, for all such purposes, the sale of spirits of wine, or of any "strong water," (as the Act calls it) by an unlicensed party,

is *illegal*—an illegality so decided, that, looked at purely in that light, no length of usage can countervail it. But shall it be said that no length of usage shall rescue the well-meaning offender if not from the law's notice, at least from its punishment? Here was a usage of thirty years' standing. Spirits of Wine have been retailed by no regularly licensed *vender*: it was universally thought completely out of their province. The druggists have as constantly kept and sold it. Society, whenever the article was wanted, went to them as its natural distributors. The very Commissioners who now hear the informations, yielding naturally to the useful custom, have positively been in the habit of so providing themselves with spirits of wine. The creature of law—a legal institution—a governing body—the Apothecaries' Hall, constantly kept and constantly sold spirits of wine for domestic purposes, and for thirty years no regular druggist has been disturbed or molested for the sale of the liquid.—And shall this universal practice, harmless to morality, convenient to society, strengthened by years, corroborated by the authoritative examples of the men most respectable, both in the Excise and Pharmaceutical bodies—shall this usage, we ask, without a single whisper of notice or warning, be suddenly made the subject of violent universal assault—*one side* of its abettors *charged by a portion of the other*, as little less than guilty of crime, and five hundred of them—most of them heads of families—suddenly involved in all the dreadful anxieties attendant upon what must have appeared to them a costly, if not ruinous, litigation?

To our minds the procedure of the Commissioners was very far from right. It was neither prudent nor humane. If the law were worth enforcing they ought to have enforced it before. They should never have allowed the usage to have grown up, or grown up, they should have left it undisturbed. If, however, the first were a bad laxity, and they were determined thus late to change it, they should have given timely and emphatic notice. If that were neglected, they might have acted: the complaint would then have been not against the law, but its administrators: if not neglected we should have been spared these harassing prosecutions, which are as profitless to the law as to society, to the prosecutors as the prosecuted.

The whole subject is now before the Government. Sir James Graham has countermanded all further proceedings till further consideration be given: and we shall not be surprised to hear that none of the penalties are to be levied.

ROYAL COLLEGE OF SURGEONS, LONDON.

List of Gentlemen admitted Members on Friday, March 3, 1843:—

J. G. Davis, P. Bellamy, P. T. Kempson, F. W. Osborne, A. Lamb, C. N. Insta[illegible], T North, W. Paterson, S. Payser, J. Shaw, G. Fisher.

KITCHEN CHEMISTRY & MEDICINE.

Be[illegible] a Diet, by Dr. D[illegible].

COFFEE.

There are various methods of preparing a solution of coffee. Some authors recommend an infusion, others a decoction, as the best; but almost all concur in recommending the following essential requisites; namely, that the coffee should be good, properly roasted, and finely ground. From the experiments of Mr. Donovan, it appears that water extracts, by infusion, the same quantity of matter from coffee, in very fine powder, as by decoction. But as a fine state of powder is not to be expected in the ordinary management of culinary affairs, a decoction of coffee, ground in the usual way, will be stronger than an infusion; and more or less boiling is generally practised by economical housekeepers. Mr. Donovan recommends the following method as efficacious in preserving both the aroma and bitter quality of the coffee. The whole water to be used is to be divided into two parts. One part cold is to be poured upon the coffee, and merely brought to a boiling point, when the liquid, being allowed to settle a little, is to be poured off. The remaining half of the water, at a boiling temperature, is then to be poured upon the grounds, and kept boiling for about three minutes, and after a few moments' subsidence the clear part is to be poured off, and mixed with the former liquor. The object in this method is, first, to extract by a kind of infusion, the aroma of the coffee, by bringing the liquid to the boiling point, and second, to extract the latter property by decoction.

ADULTERATIONS OF COFFEE.

Ground coffee is extensively adulterated with chicory, and more rarely with roasted corn. Chicory is detected by shaking the suspected article with cold water, in a glass vessel; if the coffee be pure it will swim and give little or no colour to the liquid, but if chicory be present it sinks to the bottom, and communicates a pretty deep red tint to the water. Roasted corn may be detected by adding tincture of iodine to a cold decoction of the suspected coffee, which will produce a blue colour in the liquid.

CLOVES

Cloves are useful in dyspepsia by stimulating the digestive organs, and by retarding fermentation in the contents of the stomach. They also have a powerful effect in checking nausea and vomiting, particularly the essential oil. In ordinary cases the oil may be exhibited alone, in the form of pill made with flour; but in obstinate cases of vomiting, when the bowels are relaxed, its combination with opium is very efficacious, in the proportions of one drop of the oil to half a grain of opium every two or three hours. In the bowel complaints of children, accompanied with irritability of the stomach, it may often be advantageously combined with chalk mixture, laudanum, sweet spirits of nitre, and a proper proportion of syrup to render it agreeable to the taste. The oil of cloves is also well known as a palliative of toothache, although it sometimes proves inefficacious.

CINNAMON.

Cinnamon is an excellent and agreeable condiment for promoting digestion, and is used very extensively in dietetical and confectionary preparation. When employed medicinally, it is considered tonic, slightly astringent, useful in dispelling flatulency and in checking retching or vomiting, and is often mixed with other medicines to cover their disagreeable taste, or to prevent their griping effects on the bowels. The oil is sometimes applied to a carious tooth to relieve a paroxysm of toothache.

MUSTARD.

Mustard causes no injury to the digestive organs when used moderately; but when there is any tenderness about the stomach, as is often indicated by a red tongue, it should be avoided. Some authors recommend mustard for the table to be made with milk; but it is not well calculated for this purpose, as it becomes rancid in about two days. Water containing common salt in solution will give it the proper consistency, and at the same time ensure its preservation. Mustard is sometimes employed as an emetic, in cases of emergency, in the dose of a small table-spoonful mixed with eight or ten ounces of water. Externally, it is often used, in the form of poultice, to relieve spasms and local pains of various kinds, and if not deep-seated, is generally very efficacious. When long applied to a tender portion of the skin, it may cause blistering; but as the period is generally limited to half an hour, a deep red stain is only produced; which, however, often continues for a number of days.

ADULTERATIONS OF MUSTARD.

The inferior varieties of mustard are often composed, almost entirely, of flour, turmeric, ginger, and cayenne pepper. Turmeric is detected by a solution of potash, soda, or ammonia, which strikes a deep brown colour when the mustard is diffused in water. Flour is discovered by iodine which when added to a decoction of mustard, gives it a deep blue colour. When the quantity of flour is large, it forms a tough, elastic mass or paste with water. Dr. Christison states, that mustard for exportation is also adulterated with gypsum.

PEPPER.

Pepper is an excellent stimulant for promoting the digestive process, and is so universally employed as to be nearly as indispensable as common salt. It is particularly useful when taken along with vegetables that are liable to produce flatulency; but ought to be employed sparingly by persons who have any tenderness in the region of the stomach. In flatulent cholic, pepper mixed with hot milk is a popular remedy, and is often serviceable. It forms a good external application in cases of local pains, and in spasms of the stomach and bowels. The most convenient and efficacious method of employing pepper for this purpose, is to mix the powder with ardent spirits, dip linen or cotton cloths in the mixture, and apply them to the parts affected; and they should be frequently renewed until relief is obtained. The crystalline body, *piperine*, has lately been recommended for the cure of ague; and some writers consider it superior to quinine, but the statement has not been confirmed by other physicians.

ADULTERATIONS OF VINEGAR.

Sulphuric acid is employed in the re-distillation of wood vinegar, and when the heat has been too great, a portion of it passes into the receiver. Vinegar may thus be unintentionally contaminated with sulphuric acid. If it be very minute, it cannot be injurious, and, I believe, is tolerated by the excise laws. When it exists to any extent in vinegar, a solution of nitrate of barytes throws down a copious white precipitate. If copper or lead be present, sulphuretted hydrogen throws down from it a black precipitate.

WINES.

Counterfeit wines are sometimes so skilfully made, that an experienced connoisseur is required to detect them. Red wines are often artificially coloured with brazil-wood, myrtle-berries, elder berries, beet-root, and even it i

said with a solution of indigo. Mr. Accum states that spoiled cyder is employed in the manufacture of artificial port wine; and beetroot, logwood, rhatany root and a portion of brandy are added to it. Sweet-briar, orris-root, laurel-water and elder flowers are employed to form the aroma or bouquet of high flavoured wines. Weak wines often become acid, and to correct this state it was frequently the practice, at one period, to add litharge or an oxide of lead to them; but this plan is more rarely adopted at the present day. This addition communicates to the wine a sweetish taste, by the formation of acetate of lead, but renders it more or less poisonous. This sophistication may be detected, by adding to the wine a solution of hydro-sulphuret of potass, which produces a black precipitate if lead be present. Chalk or carbonate of lime is more frequently employed than lead, and is not injurious in small quantities.

ADULTERATIONS OF BREAD.

Potatoes are sometimes employed by bakers to mix with the flour, in order to increase their profit. In such cases 14 pounds of potatoes to a sack, or 280 pounds of flour, are said to be the proportions employed. As potatoes contain much less nutriment than flour, in proportion to their weight, and as they are apt to disagree with persons of weak digestion, the practice ought to be considered in no other light than an imposition on the public. Alum is also frequently used for the adulteration of bread. The addition of alum to bread improves its appearance, rendering it white and firm, so that it is less apt to crumble when cut with a knife. The smallest quantity of alum that can be employed to produce this effect is from three to four ounces, to a sack of flour, weighing 280 pounds. This small quantity of alum in the bread cannot, to any material extent, be hurtful to the constitution, for a quartern loaf, weighing four pounds, will only contain about eighteen or twenty grains of this salt. When, however, eight or ten times this quantity is employed, for the purpose of whitening bread made from damaged or inferior flour, it must prove very injurious, and increase the naturally astringent effects of loaf bread. The adulteration may be detected in the following way. Take two or three ounces of the suspected bread, and rub it carefully in a mortar with six or eight ounces of cold distilled water, then filter through paper. Add to the resulting liquid a solution of muriate of barytes; if a copious precipitate ensue, which is insoluble in nitric acid, the presence of alum may be considered as nearly certain. But this may be further confirmed by adding to another portion of the liquid a solution of subcarbonate of potass, which throws down from alum a flocculent precipitate.

PHYSIOLOGICAL CHEMISTRY.

(By Mr. PRATER, Lancet.)

Although Liebig has investigated the phenomena of fermentation and putrefaction after a most masterly manner, I think it may reasonably be affirmed that he has attempted to generalise too much on the subject; or, rather, that he has not succeeded in his admirable attempt. That fermentation is (as he says) produced by decomposing matter communicating the same sort of action (somewhat after the manner of contagion) to a solution of organic matter, otherwise not disposed to change, seems in his work pretty clearly established, and may be considered to be his own important discovery on the subject. But I propose in this essay to render it clear that his attempt to refer the peculiar action of decomposition, &c., to a more general principle, is unsuccessful. The only instances he seems to have given are the following, and these are rather to be looked upon as *exceptions* to the general law, that affinity in action *cannot* communicate such action to all substances that happen to be present. I say they should rather be considered as exceptions to the general law of inorganic matter, because they are so few, fewer even than Liebig supposed. The facts on which he founds his opinion are the following:—

1st. Metallic copper is not soluble in heated dilute sulphuric acid, while an alloy of copper, zinc, and nickel dissolve easily.

2nd. Platinum alone, even in minutest state of division, is not soluble in nitric acid, while an alloy of platinum and silver is so.—(Chimie Organ., p. 225, French translation.)

3rd. According to Khulman, no nitric acid is formed when spongy platinum is heated in a mixture of pure azote and oxygen, but only when heated in a mixture of cyanogen and oxygen in excess, or (p. 270.) (a less satisfactory example) hydrogen and oxygen and azote.*—(Opus. cit., p. 282, 3.)

I have put these three so-called facts together although they are placed in different parts of Liebig's work, because they appear the only ones which can be referred to the same principle, and also to a principle, if established, which is similar to that causing fermentation and putrefaction. As to the decomposition of the chloride of azote, by touching it; also that of peroxide of hydrogen, by the *contact* of different substances; contact or agitation immediately causing crystalisation from a saturated saline solution, &c. &c.; all these phenomena seem to have little or no relation either to the three so-called facts above stated, or to the phenomena of fermentation or putrefaction; for Liebig himself distinctly says, it is not by the mere contact of the ferment that fermentation is produced, but in consequence of that ferment itself being in a state of active decomposition. Besides, if mere contact, or any kind of agitation (similar to that causing crystalisation in a saturated saline solution,) were the cause of the spreading of fermentation, fermentation ought to be produced by such mechanical actions; but no doubt it is not. Ingenious, therefore, as is this attempt to generalize, it is pretty clear that the first three so-called facts, or the phenomena of fermentation or putrefaction, cannot be referred to the effect of mere agitation of particles, as in saturated saline solutions, &c. Let us, then, content ourselves with examining the three assertions in question, for if they are clearly made out, there will only be a shadow of reason to attribute fermentation to the same cause; and if they are unfounded, we must be content to consider fermentation, in the present state of our knowledge, as an ultimate fact, peculiar to organic matter, and in all probability peculiar to such matter in consequence, chiefly, of its facility of decomposition.

On subjecting brass wire to the action of boiling dilute sulphuric acid, in order to see if the zinc would communicate its solubility to the copper (according to Liebig's theory,) I found sufficient copper was dissolved to be turned blue by ammonia. As I thought it probable that copper filings (in a fine state of division) were really soluble in heated dilute sulphuric acid,* I subjected them to such experiment, and found them to dissolve in sufficient quantity to colour the solution, and to be rendered blue by ammonia; the part undissolved was, in a great measure, converted to the black oxide.

The experiments just related were made in reference to Liebig's assertion (1.) in regard to an alloy of copper, zinc, and nickel. But as we see that copper, in a fine state of division, is soluble in dilute sulphuric acid, of course solubility is not communicated to it by the zinc; indeed, the brass wire, though very fine, seemed only to a slight degree soluble in dilute sulphuric acid, and not so soluble as the copper filings.

In relation to experiment (2.) the *finest* platinum filings were put in nitric acid, in order to see if platinum itself was not, in some degree, soluble: but there was neither when the filings were boiled by themselves in nitric acid, nor in contact with silver filings, any appearance of solution, though these latter dissolved, of course, rapidly; nor when a platinum wire, *of the 1-500th of an inch in thickness only*, was put in the acid in contact with silver, was it in the slightest degree dissolved or even discoloured. But the reader, by referring to the note on fusion, at the end of this essay, will observe, that admitting the fact of the solubility of the platinum in nitric acid, when fused with silver (for Berzelius says the same,) I think such fact explicable on other views than those adopted by Liebig.

I have not repeated (3) Kuhlman's experiment in reference to the formation of nitric acid. But, granting the truth of his assertion, I do not think that this sole example is sufficient for Liebig's purpose, because the gases here made use of are those of which *organic* matter (animal) is in great part composed. We should hence expect some degree of such property in cyanogen, which seems to be considered a radical of animal matter, and at the same time contains combustible matter.

Cyanogen (like carbonic oxide) is inflammable; the carbon in the one case communicating its combustible property to the azote, and in the other to the oxygen; that is to say, when the oxygen is in small quantity: for when it exists to the same amount as in *carbonic acid*, we find the combustible quality destroyed. Now, on our views of this subject, *combustible* and organic matters should possess this property of communicating action.†

We say combustible and organic matters, because although organic matters are, for the most part, combustible in the dead (and dry) state, they are not so in the living; and because sulphur, phosphorus, and some other

* Again, pp. 112-13, the volatilisation of a *solution* of boracic acid, or muriate of soda, at a very low temperature, while the two *in substance* are perfectly fixed, even at a full red heat, is grouped by Liebig among the same phenomena, the solids continuing the action which the water begins. But this is a case of evaporation, instead of solution or oxidation, and has little or no analogy to an action continuing through the same fluid. The salts are probably rather *drawn up or forced up*, by the ascending current, as it were, than actually *of themselves* continuing the action. This consideration seems sufficient to put them into a distinct class; but we must not forget that Mr. Faraday says such evaporation is confined

* Most chemical authors seem to admit this; but if the alloy of copper, zinc, and nickel is soluble in weaker dilute sulphuric acid than copper is, Liebig had grounds for adducing this as an example of his theory: but that the theory *altogether* is erroneous, is shown, I think, in the note on fusion at the end of this essay.

† However, I do not know whether even these cases of communicated action are not better referred to the principle of compound matter, being, as it were, a *new substance* with new properties, as the reader will see more fully developed under the note "on fusion;" the ideas contained in which are the result of further reflection on this subject

matters (as the metals,) are combustible, without, as far as we can judge, being susceptible of vitalisation (if we may so speak) being, as we may conceive, too combustible for supporting the vital processes, these requiring only the "slow combustion," as Liebig calls it; at the same time, even animal combinations are, perhaps, *necessarily* of combustible elements.

In the foregoing remarks I have not alluded to the fact that hydrogen may be substituted for the carbon, because it is obvious that hydrogen is a substance of combustible nature and an organic element, and hence, of course, should, according to our views, be a fit substitute. But in this case there is also another reason, and one which makes this example not at all to Liebig's purpose, viz., that water is *indispensable* to the formation of nitric acid; and water is formed when ammonia, or hydrogen and nitrogen, are burnt in contact with a sufficient quantity of oxygen.—(Liebig, p. 284.) Liebig, in this part of his work, then accounts for the formation of nitric acid on other grounds, and is somewhat inconsistent with his statement at p. 270. Nevertheless, as he seems in some degree aware he could not properly bring this example under the same head as cyanogen and oxygen, we see how few solid examples he has been able to urge in favour of his theory; yet, if a general principle, he ought surely to have found numerous other examples.

But to return to our point. One thing is certain, that even if Liebig can bring forward one instance in favour of the property in question extending to matter that is not combustible, yet there seem to be a hundred examples where the precisely opposite case obtains, as in all the *electro-chemical combinations*. In all those cases the most oxidable metal has its affinity for oxygen increased, to the exclusion of the less oxidable one. In the well-known case of copper, zinc, and sea-water, the copper, which would otherwise have been oxidated, is prevented from oxidation by the contact of the zinc; that being, at the same time, oxidated more rapidly, the copper transferring (as it were) its property of oxidation to the zinc. And here we may observe, that all these electro-chemical combinations show that *contact* has often a wonderful action in modifying or altering affinity, acting in many cases, doubtless, and perhaps in all, by disturbing electrical relations. But however to be explained, the fact is obvious; and Berzelius, in pointing it out, and extending it to some other cases, such as the effect of dilute sulphuric acid on a solution of starch at a certain temperature, chlorid azote (mechanical contact,) &c. &c., seems to have rendered a service to science: not that I would assert that he has grouped only cases under this head that properly belong to it; on the contrary, I think Liebig's observations necessarily oblige us to refer *some* of these cases to another and a different principle, viz., that a body undergoing decomposition tends to communicate the same property to the matter in contact with it, if, we may add, that matter be organic. Thus, to this latter principle should be attributed the acts of fermentation, Liebig having clearly shown that in this case the mere contact of the ferment is not sufficient, unless that ferment be in a state of decomposition. Thus the ferment, being heated at a low *heat* in a close vessel, ceases to disengage gas, and, at the same time, to excite fermentation; but on being left in contact with the air some hours, it acquires the property anew, and, at the same time, disengages from its own mass carbonic acid.—(Op. cit., p. 957.)

This experiment clearly shows that *contact* and Liebig has, consequently, established his principle as regards the important action of fermentation. But here I conceive we may fairly stop, and say that all his attempts to include other phenomena, excepting contagion, and putrefaction, and combustion, under the same head, entirely fail.

(To be continued.)

ETHNOLOGICAL SOCIETY, Feb. 28.

The Secretary reported that, since the last meeting, there had been an accession to the list of members of 22, which included, among other distinguished persons, Dr. Knox, of Edinburgh, and Professor Clarke, of Cambridge. He then read part the first of a paper from his own pen, entitled, "Contributions towards a History of the Esquimaux." It appears this arctic race is spread over the whole of the northern coast, and of North America, down to Prince Williams' Sound. On the Pacific, including the Island of St. Lawrence; and to the coast of Labrador on the Atlantic, as well as along the opposite coast of Greenland, a computed distance of 5,400 miles, exclusive of the various indentations of the land. Throughout this vast country the same physical characters, language, and dress, is found. Dr. Prichard, in his "History of Man," has fallen into grievous error regarding this nation of fishermen, by trusting to compilations, instead of consulting the original authorities. By this means, he has figured a skull as typical of the race, which is falsified by the collections of Esquimaux crania existing in this country, to the number of fourteen. He has mistaken the summer for the winter dress, and placed the stature of the nation too low by upwards of six inches—no trifling error in their physical history. Even the little, therefore, that has been done in this infant, but, particularly to medical men, most interesting science, is in a very crude state.

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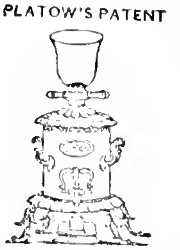

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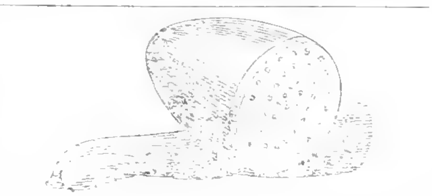

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(Signed) J. R. Martin, Presidency Surgeon.

Calcutta, December 8, 1836.

December 13, 1836.

Sir—In reply to your note, I beg leave to state that I have for many years past been in the habit of recommending the Ceylon Moss, as prepared by you, to all my convalescent patients; and a great majority of them have preferred it to any other, either vegetable or animal jelly.

(Signed) S. Nicholson, Surgeon, General Hospital.

To Mr. Previte.

I have used the Ceylon Moss frequently as an article of nourishment for invalids and children, and find it answer every purpose of arrow-root or sago; and in most cases to be much more agreeable to the habits of a sick person than the other descriptions of farinaceous food generally in use. (Signed) A. R. Jackson, M.D., Surgeon Officiating Apothecary, H.C.S.

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(Signed) W. H. Goodeve, M.D.

Professor of Anatomy and Medicine, Medical College.

Calcutta, December 15, 1836.

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Dear Sir—I have examined and tried the Ceylon Moss, and am of opinion that it is a valuable article of sick diet; the more so in cases where animal jelly cannot be obtained without delay, and when it is not so fitting for a weak state of the stomach as that of the Ceylon Moss.—Very truly yours,

(Signed) Frederick Corbyn, Garrison Surgeon.

To Mr. Previte.

Calcutta, December 13, 1836

Sir—In reply to your note, in which you request my opinion upon your Ceylon Moss, I can merely repeat what I said in my capacity as editor of the "Indian Journal of Medical Science," viz.—that I have tried it myself, and found it unequalled as a light and nourishing food for the sick. I beg to apologise for not having sent this reply earlier.—I remain, Sir, yours obediently,

(Signed) J. T. Pearson, M.D., H. C. Service.

To Mr. Previte.

I hereby certify that I have made extensive trials of the Ceylon Moss, introduced into notice by Mr. Previte, and I have also subjected it to chemical analysis. For details as to its chemical properties, I may refer to my paper on the subject in the "India Journal of Medical Science." I need only repeat here that I consider it an excellent article of diet for invalids. It is very nutritive, easy of digestion, and free from any disagreeable or prejudicial qualities.

(Signed) W. B. O'Shaughnessy, Professor of Chemistry, Medical College, Calcutta.

December 10, 1830.

I have had many opportunities of recommending the Ceylon Moss, as prepared by Mr. Previte, in cases of extreme debility, and in early convalescence after fever, dysentry, and other complaints, where none other than the most delicate nourishment could be administered, and I can confidently bear testimony to its value as a light and grateful article of food under such circumstances.

(Signed) Walter Raleigh, Surgeon.

Calcutta, General Hospital, December 8, 1836.

(These certificates are taken from a paper furnished by me in 1837, and published in the "Transactions of the Royal Medico-Botanical Society." Vol. I., Part 4, p. 181.)

From the India Journal of Medical & Physical Science.

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A Journal of English and Foreign Medicine and Medical Affairs.

No. 182. Vol. VII. LONDON, SATURDAY, MARCH 18, 1843. PRICE FOURPENCE. Stamped Edition

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SUMMARY.

PENETRATING WOUNDS OF THE CHEST.

Clinical Lecture, delivered by Mr. GUTHRIE, on Saturday, March 11th, at the Westminster Hospital.

Summary.—*The law of insanity—M'Naughten—the opinions of mad doctors not to be relied on—feigned diseases—penetrating wounds of the chest—advice to duellists—case of Sir Charles Bampfylde—of Mr. Richardson—of Lord Beaumont—of Lieut. Forbes—treatment of an incised wound, penetrating the chest or abdomen—case of Mrs. Magnus—of Mr. Drummond.*

I HAVE written four books recording the practice of the surgeons of the British army during the war in Spain, Portugal, France, and the Netherlands, from the first battle of Rolica, to the last decisive conflict at Waterloo. The fifth book will complete the subject, and contain such observations as I have to make on injuries of the chest and abdomen. It is not, however, yet written. I have little time to spare that I cannot dispose of in a more profitable manner as regards myself, and there has been until now, no encouragement to print or publish, as far as respects the public.

Mr. Churchill offers to publish the book, and to expend as much upon advertisements as I shall pay for printing, &c.; this, he says, will repay me well, inasmuch as many of the reading public frequent the advertizing gentlemen. There, is, however, some danger in doing this, for the Council of the Royal College of Surgeons will visit with their high displeasure those of their body who appear most prominently in the columns of advertisements, and if an ordinary member may not appear every day, or every two days, an ex-president could not be seen, with any propriety, above once a-week: and I do not think the plan in this case would succeed. Gentlemen, when they decide upon shooting themselves, generally try the thickness of their heads, and when they think their honor has been offended, and that they ought to make a demonstration of intending to shoot somebody else, submit themselves in a very sensible manner to the guidance of a friend, who in general very wisely thinks that killing a man does not at all prove he was in the wrong, and that the retracting an error ought in most instances to be a sufficient satisfaction to the party aggrieved. Fortunately for practitioners in surgery, there are some foolish fellows left, who think it right to fight first, and apologize afterwards; but they are becoming scarcer and scarcer every day, and the only hope on which we can repose with any confidence, is derived from the accidental support of the lawyers and the mad doctors, who have not only ascertained that a man must be mad when he shoots himself, in which opinion I cordially concur, but have also discovered that when he shoots his neighbour he must be equally mad, in which I do not concur, but from which I do not dissent, on account of the opportunities, which the dissemination of such opinions will doubtless occasion, of improving your knowledge of wounds of this nature; and as the punishment for the crime of murder is now reduced to a moderately long transportation, or a comfortable confinement, with every reasonable accommodation for life, provided the culprit can shew that he ever laboured under a delusion, why should any revengeful or misguided man leave his passions ungratified, or refrain from becoming a martyr for what he may suppose to be for the good of his country? The members of the medical profession are, apparently, according to the present state or practice of the law, the arbiters of life and death in such cases, without positively knowing on what principle they arbitrate. I listened attentively the other day, at the trial of M'Naughten, and heard the Solicitor-General state at length the dicta of Lord Hale, Lord Erskine, and others, each authority laying down the law somewhat differently; but I did not understand him to point out decidedly the precise law under which the prisoner was to be tried and convicted. He seemed to me to intimate that the jury ought to be guided by the authority of Lord Hale, whilst the counsel for the prisoner intimated as strongly, I thought, that they ought to confide in that of Lord Erskine. This state of indecision is exceedingly distressing to medical witnesses, and cannot be satisfactory to a jury: whereas, if the law had been rather more clear, and had declared that a prisoner on trial was to be found guilty according to the facts, and that the extenuating circumstance of his having been occasionally insane, was allowed to be urged in his defence, as entitling him to a recommendation for mercy, which the judges might grant or not, as they thought right, and in such manner as they thought fit, or might be afterwards determined upon with reference to the proofs given of insanity, previously to the committal of the murder, the absurdity of finding such a prisoner as M'Naughten "not guilty" of murder or homicide, would rarely or never take place. If I had been a medical witness on the point of insanity, I should have, in all probability, coincided with the other medical gentlemen; but if I had been one of the jury I should have found him guilty, recommending him, however, for such a degree of mercy as would be short of hanging. I should have done this on evidence, or considerations of a professional nature, foreign to the trial, or what was adduced in court, and which inclines me to the opinion that our forefathers acted wisely in excluding medical men from juries, not because by their profession they are inured to human suffering, and might be careless of preserving life, but because they might possibly be influenced, in a similar manner, by knowing too much or too little. In my own case, I am willing to admit that it would have been the last.

Looking at the prisoner from the side of the jury-box, I was struck by the peculiar manner in which he carried his head, which was so far backwards, both while standing and sitting down, that his chin would have pointed to the cornice of any moderately high room. This is a strange, constrained position, giving a singular expression to the countenance, and is not in any way natural, but under the controul of the will, for many muscles must be kept in constant action to maintain it.

The head is only usually thus thrown back when in the erect position, for the purpose of looking at something, when the eyes are kept open in the ordinary course of things, and the upper eyelid seldom moves. The muscle which turns the eye upwards, the rectus superior, and the levator palpebræ superioris, are supplied with nervous influence by the same branch of the third pair of nerves, in order that they may always act in concert, and, during this proceeding, the involuntary motion of winking is in a great measure suspended. I observed that M'Naughten's upper eyelid did not wink in the proportion of one to three, when I compared its motions with those of the eyelids of the persons sitting near him. Its motion then was merely the involuntary action by which the eye is cleaned. I have heard, since the trial, that he usually carried his head in the same manner when under observation; and if he should continue to do so for the future, it will be a very inconvenient position involving no light degree of punishment in itself, and will prove that he is not mad upon one, but upon two points. I mention it in order that you may draw the attention of the young ladies, your friends, to this physiological fact when they go lionizing to Bethlehem. They may also observe how intellectual the eye appears when the head is brought forward, as in answering a question, and they will then come to the conclusion that he is rather a sensible, good-looking person, in spite of his double insanity.

I have no reliance whatever on the opinions of mad doctors, however eminent they may be, as to the sanity or insanity of any person, when those opinions are formed only from what they may have observed after the committal of a great crime. A man must be very ignorant and a very bad actor, who cannot deceive any number of doctors, who are sent to look at, or converse with him for an hour, from time to time, all of them being naturally anxious (from the kindness and humanity which pervade the profession at large) to find that he is insane, rather than otherwise. An utterly ignorant fellow may perhaps so grossly exaggerate the part he is desirous of playing, as to deceive no one; but this will rarely happen if the crime has been really premeditated, and due preparations have been previously made to obviate the ordinary consequences. It is not only against the feelings of a medical man, but it would be greatly against his pecuniary interests, particularly if he should be what is called a mad doctor, for there are a great many wayward philanthropic old ladies and gentlemen who would never cease abusing him if he were to declare a person sane when such a declaration would hang him, and I suspect very few will be found who would come to this decision when they can find even a shadow of doubt upon the subject.

Feigned diseases were in former days very common in the army, when its numbers were great, and the service more disagreeable than at present, and among these simulated maladies, the various kinds of insanity and of contractions, were not the least difficult of discrimination. I have seen more than one man recover his intellects in a wonderfully short space of time, after he had been discharged on the certificate of the doctors that he was incurably insane. I remember one clever fellow, who had crawled about in various places for nearly two years, with his body bent at a right angle with his legs, on whom the doctors had tried all sorts of experiments to straighten him, by stretching him up against a wall with pulleys, &c., he roaring all the while, and the perspiration pouring down his face. He danced a hornpipe at the hospital door with considerable grace and agility five minutes after his discharge had been safely deposited in his pocket, to the great mortification of the surgeons, who had certified to the incurable rigidity of the muscles of his abdomen.

I do not know whether any of you go to the French plays; if you do you will have seen Mad. Albert acting in the mad scene in "La Perle de Savoie" remarkably well, and if she were to commit a murder from motives of revenge, I strongly suspect she would beat all the doctors sent to see her, provided only that she would sometimes act below her part, and remember that monomaniacs are not insane, even on one point, every day in the week. I am aware that many persons may have had particular means of acquiring information on the subject, but this makes it the more necessary that the conviction of a murderer should in no way depend on his or her being a good or bad actor. Kindness will do much towards the cure of many who are afflicted with insanity, but it is equally well known to those who have the care of mad people, that they are frequently deterred from com-

mitting crimes through the fear of punishment, which they believe will certainly follow

I will not take up your time any longer with a subject which you will say scarcely constitutes a clinical lecture, although what is to follow, perhaps, can hardly be deemed such, at least, within the walls of this hospital. Penetrating wounds of the chest are of two kinds; one from knives, swords, spears, or sharp-cutting instruments; the other from musket or pistol balls, or other foreign bodies, which bruise or tear. The treatment of a wound made by a knife or sword, is diametrically opposite to that made by a musket ball, and the treatment of a wound made by a musket ball is usually much more simple, and requires much less aid from scientific surgery than that made by the smaller ball of a pocket or duelling pistol. A few years back I was laughed at in the newspapers, and declared to have outdone Sir Lucius O'Trigger, because I recommended that, when gentlemen were about to fight a duel, they should present a bold front, and not stand sideways, for, if in that case they were wounded in the chest, one lung only would be shot through instead of both, thus giving them a greater chance of recovery; and I further advised that the pistols should be made larger in the bore, and that more powder should be put into them, so that the ball should be sent clean through a gentleman, and not stop half way—advice, I can assure you, of the soundest nature. I do not, however, positively insist upon the ball being larger, inasmuch as the surgeon can always, and must, in most instances, enlarge the hole, and remedy the evil occasioned by a small opening; there is little humanity in not having powder enough in the pistol to send the ball quite through the person fired at, provided it hits him; on the contrary, I should deem myself guilty of murder, as much as the man who actually fired the pistol, if, knowing that thirty grains of powder would, at twelve paces, send a ball through a man, I were only to put in twenty, and let it be driven half way. I speak surgically and humanely, and always with the view of saving life.

The late Sir Charles Bamptylde, who was shot in the back about twenty years ago, by one of his servants, was an instance of the mischief following the pistol not being loaded with sufficient powder: the ball lodged inside the ribs, in front. He was a tough old gentleman, and, if the ball had gone through him, might have escaped, provided it had been bigger, or either of the holes it had made had been larger. He survived about eight or ten days, dying eventually from the oppression caused by a large quantity of fluid which had filled the right side of the chest, and had encroached by its pressure on the left. If the hole made by the bullet had been bigger, or I had enlarged the wound, this fluid would have escaped, he would have lived a day or two longer, and have then died from a different cause; but this my older colleagues would not let me do, and I did not dare to do it in those days without their consent. There is always a difficulty in carrying out a practice which has not received the stamp of antiquity or universal custom. People of condition, in this country, will discuss every branch of physic and surgery as readily and as stiffly as if they really knew something about the matter, and to their own great disadvantage; inasmuch as their medical attendants are often prevented from saying and doing what would be both proper and right to say and do; for if unsuccessful in what they did, they would run the risk of being ruined in reputation by the absurd and exaggerated stories which are told in every direction, just as the individual who tells them happens to fancy the practice to be right or wrong, and often without even knowing any one of the facts of the case. If I had thought I could have saved him by enlarging the opening, I would have done it, fight for it, but not knowing where the ball was lodged in the chest, and never having seen one spit up, although I have seen a piece of rib coughed up, and have known a man go all the way from Waterloo to Paris with part of his breeches in his belly, the operation was not done. My excellent friend and colleague, Mr. White, some years back had a very instructive case, in the person of Mr. Richardson, who was shot on Blackheath. The wound speedily healed, but the patient became worse and worse, with exceeding difficulty of breathing; until, in a violent fit of coughing, the wound re-opened and discharged two or three pints of fluid, after which, Mr. Richardson did well.

We had in this hospital in September 1840, a lad of 18, who had shot himself for love with a pistol on the left side of the chest. The little ball went in just over the eighth rib, and lodged in the lung, the pistol not containing sufficient powder to send it through. He dragged on a painful existence until the 5th of December, when he died. His life was prolonged for a short time by emptying the chest of its fluid, but the ball was loose and rolled about on the diaphragm. If it had gone through, he might have lived.

The ball, in the case of Lord Beaumont, did not go through, and is still lodged: it did not, in the first instance, open the cavity of the chest on the left side, but it ultimately did so, and he was near dying, not from fluid, but from air which escaped from a small hole in his lung, and caused as much oppression and obstruction as if it had been fluid. You will find the particulars of this case stated in a clinical lecture, which was delivered in this hospital ten years ago, and which is reported in the second volume of the *London Medical and Surgical Journal*. The first inflammatory symptoms were subdued by the loss of more than 100 ounces of blood from the arm, and not less than 150 from the application of more than 400 leeches at different times to the chest. The symptoms having very much diminished in severity, he was removed from Long's Hotel to private apartments, when he caught cold, which brought on a fresh attack of inflammation with cough and spitting of matter, and he would have died from the quantity of air which had been pumped by his respiratory organs into the cavity of the chest, and through the lung which had ulcerated, if I had not enlarged the opening made by the pistol ball, until the instrument I used, a piece of hard sponge tent, had entered the chest, and allowed the compressed air to escape on its withdrawal. The wound in the lung healed, and his lordship is now as sound in health as any man in England. He owes his life to the right application of the principles of physic and surgery and nothing else, and I will venture to say there is no other case like this in Europe; he is a man, as I have often told him, *per se*. Dr. Roe has told me of a case of pneumo-thorax, where the wrong side of the chest was opened, and air admitted, the man dying directly from the consequent compression of both lungs, so that in performing an operation of such a nature, it is requisite to ascertain first which side of the chest is full of air.

Lieutenant Forbes, of the Royal Navy, desired me, within these few days, to examine a wound he had received in the right side of his chest, on board the *Africaine*, in 1810, at the Mauritius. A musket-ball entered the right side in front, diagonally upwards and outwards, about two inches from the nipple of the breast. The ball did not pass out, but, luckily for him, it went through the wall of the chest behind, and lodged in the muscles of the back, and soon ceased to be a source of irritation; it may now be felt and seen under the skin, and he said I might take it out if I liked, but as it was quite harmless and I recollected there was such a thing as raising the devil without being able to lay him again easily, I advised him to keep it. The ball made a large hole, and passed through the outer part of the lung. When a ball passes through the middle, or nearer the root of the lung, where the vessels are larger, the sufferer usually bleeds to death. This gentleman says he lost a large quantity of blood by the wound, was bled afterwards to a great extent by the doctors, and was nearly in a state of insensibility for six weeks, during which period large quantities of blood, air, and matter were constantly pumping out at the wound, which was large enough to admit of their all passing through. He thought this was very odd and very wrong, but it was the only thing that saved his life. The great and important distinction between a wound from a musket-ball and a pistol-ball is, that in the former case the wound is a large one, in the latter a small one; which is a great misfortune, for nothing can be done with it unless it be enlarged. When a patient is in the state described, the whole cavity of the chest passes into a state of suppuration, and if he is to recover, the wall thickens inside, the lung becomes more or less impervious, and adheres to it; the size of the chest diminishes, the ribs fall in to a certain extent, and the breathing becomes very imperfect. Mr. Forbes is in this state, and I have certified to the Lords of the Admiralty, not only that he is deserving of reward from them for his sufferings, but on account of his case being one of the best examples of good surgery that I am acquainted with, and well deserving of being known.

When a sword or a knife penetrates the wall of the chest, the cut should be closed as soon as possible; it should be regularly sewn up. When I used to lecture on surgery, and came to the subject of amputation, I advised you all to get broomsticks, and saw them up by inches, in order that you might acquire the necessary facility in doing it, for I am inclined to believe none of you are sawyers by intuition. In like manner, I judge you are not able to sew. It has been said, that a surgeon should have an eagle eye, a lion heart, a lady's hand. As to the eagle eye, and the lion heart, I make no doubt you have all got them, but I doubt the lady's hand. I have often thought my hand as light as that of any other man engaged in the practice of surgery, nevertheless, I never could stitch up a hole in my glove, nor in anything else, to my satisfaction. I would recommend you, then, to practice the art of mending gloves, until you can do it neatly: if you cannot arrive at this, you must in the event of an accident occurring, avail yourself of the assistance of some good old lady, who is past the time of fainting and hysterics: if she will only sew up the wound with as much care and neatness as she would a hole in her best cambric pocket-handkerchief, taking in with her stitch nothing but the edge of the cut skin, she will have done your patient an essential service. The skin is then to be wetted, and a piece of dry gold-beater's skin laid on it, then a larger piece, and next some lint; the whole to be retained by plaster, but no bandage is to be applied. The patient is then to be laid on the wounded side, and is not to be moved on any account whatever.

The older surgeons thought it right to begin to bleed, to purge, and to glyster forthwith—but I never could see the advantage of bleeding a man because he had the misfortune to be stabbed, and was half-dead already with fright: nor could I see how anything was to be gained by purging a man all day and night, whose great object was to lie as quiet as possible: and when I used to hear some of my old friends, of the Court of Examiners, recommending bleeding, purging, and glystering without mercy, without hesitation, I could not refrain from smiling at the recollection of the rebleedare, the repurgare, the reclystarizare, of Moliere. Adhesion of parts cannot take place under such circumstances, and the less physic a person takes the better. If he should have been so unfortunate, as to have swallowed it, he must nevertheless lie still, happen what may.

An ordinary wound in the abdomen ought to be treated in a similar manner, although a very long one may require a stronger stitch here and there. I have heard it recommended, in such cases, to send a needle through the muscles, and to sew them together; but this was done by gentlemen who did not know, practically, that the muscles of the abdomen do not unite by muscular or tendinous fibres—they adhere by cellular membrane, become afterwards separated, and a hernia is always the result. Fancy a person with his curved needle, three inches long, working away at the belly of a gentleman who has two inches of fat under his skin, and you may understand what a pretty business it must be for the stitcher as well as the stitched—and all for nothing.

A plastic fluid of a very adhesive nature soon begins to exude from the edges of a clean cut wound, and reunites them to each other. If the lung should fall against the cut part, the object sought for by placing the patient on the wounded side will be attained; and if it should be so, the safety of your patient is ensured. He is a

lucky fellow, if there have been any previous inflammation in the chest within a few months, by which the two pleuræ are agglutinated. When a ball enters the cavity of the chest, it deprives the parts it injures of the capability of adhering to each other, until after some portion of their abraded edges have separated by a process which occupies several days, and suppuration has taken place, which, with the fluid secreted during this time from the inflamed surface of the cavity generally, will fill the chest and, if not evacuated, destroy the patient. I have seen in London, and have had more or less the charge of eight recent cases of wounds of the chest, implicating its cavity; two only have survived. Lord Beaumont is one, Mrs. Magnus the other. I saw her at ten o'clock in the morning after the injury, with Mr. Adams, who came to my house for me. The ball—a small pistol bullet entered on the right side from behind, between the seventh and eighth ribs, just under the arm, when hanging down, and passed out in front, over the cartilage of the sixth rib, more than an inch from the pit of the stomach. She had not spit blood, and it was easily ascertained by the ear, when carefully applied to the wall of the chest, that the lung was pervious to air, which induced me to suppose that the ball might not have penetrated the cavity, although it might have injured or grazed the membrane lining it. I abstained, therefore, from probing the wound, lest I might make that a penetrating wound, which was not so at the moment. She was suffering great pain, had great difficulty in breathing, and was much oppressed. And now as to the question of enlarging the hole thus made? If I had believed that the ball had passed into the cavity of the chest, I should have at once enlarged it, as a hole is a hole whenever made, and it is as well done at once as afterwards, for a secretion of fluid will take place about the fourth day, and must be evacuated. As I did not believe that the chest was penetrated, Mr. Adams bled her in two bowls and a wash-hand bason, till I found by my finger on the pulse that she was in the act of fainting. She lost at this bleeding more than a pint and a half of blood, about half as much as was taken from Mr. Drummond altogether; it shewed the strongest signs of high inflammatory action, and she was so effectually relieved by the quantity removed, that it was not necessary to bleed her again during the treatment. At the end of three weeks of gradual improvement, she was removed from the Auction Mart Coffee House to a private lodging, the excitement of which was, in all probability, the cause of her spitting a little blood, which she did on three occasions, when I was desired to see her again. It then appeared to me that the injury of the lung was probably confined to a small point, and as the symptoms were not urgent, the palliative system was persisted in. I saw her with Mr. Adams a third time, to confer on the propriety of her being examined before the magistrates: I went alone a fourth time to see her in order to ascertain her actual state after the wound had healed, and she was, in my opinion, able to take care of herself. I came to the conclusion that the ball had not struck the lung, nor penetrated the cavity of the chest in the first instance, although it had injured the membrane lining it, and had given rise to ulceration of a small portion of the lung after it had adhered, and by thus adhering (which can be ascertained by the ear) the patient was saved. This case reflects the greatest credit on the ability, talent, and attention of Mr. Adams, and shews the propriety of not probing these wounds when there is a hope of their not having penetrated the cavity of the chest, and for not doing which he merits the highest praise.

It would, however, be wrong in me who know better, and it would only lead you into error, if I were to allow you to suppose that a penetrating wound of the chest and lungs could ordinarily be treated with success in so simple a manner. There never has been any case of wound of the lung which recovered without extreme hazard and great loss of blood. Mr. Drummond was wounded in the back, about two inches from the spine, and the ball was found half an inch under the skin, nearly at an opposite point in front. From the absence of all the symptoms of alarm or shock that usually indicate the lesion of a vital part, I was willing to hope that the ball might not have penetrated the cavity of the chest; and as the opening made by it was too small to allow the finger to follow it, especially as Mr. Drummond was a very stout man, I did not choose to run the risk of examining it with a probe, which, if the ball had run round, might have done much mischief. The extraction of the ball was a matter of no consequence; it would have remained where it was without doing any harm, but there is a common prejudice in favour of removing it; and I also did it, because I was anxious to find, if possible, some confirmation of our hope that the ball had gone round outside the cavity, by being able to trace it from before backwards, if only for an inch. I could not, however, trace its passage in any direction, nor could I do it in a satisfactory manner on the examination after death. It passed from the omentum to the edge of the end of the eighth rib, but how it jumped thence to the place where it was lodged, I cannot exactly explain, and would recommend your applying for further information, if you require it, to the Lord Mayor. His Lordship was able, from hearing a statement of the case of Mrs. Magnus, according to the report in the papers, to decide without knowing anything of the nature or treatment of Mr. Drummond's wound, that the two cases were exactly alike in all respects. Now his Lordship could only have discovered this from that omniscience which naturally falls upon a chief magistrate, on his attaining office, and which I trust, he will exercise on this point also for your edification and mine, and that of all other ignorant people, who are willing to rely upon his knowledge and discretion upon so delicate a subject.

The ball was extracted at 5 p.m. on Friday evening, and I saw Mr. Drummond again at 8 and at 12, and, as he was quite easy, I left him with the hope that our best wishes might be realized. At five in the morning of Saturday I was sent for, and found him suffering from great uneasiness, and difficulty in breathing, accompanied by a particular catch or jerk in respiration, that indicated a wound of the diaphragm. The chest sounded well to the ear in every part, and I had no doubt of the substance of the lung having escaped any serious mischief although it might have been injured by the ball passing between it and he diaphragm. I opened two veins in each arm, and obtained, with great difficulty, about 12 ounces of blood, the veins being small, and the arm very fat, so that the bleeding was stopped by the fat closing the openings I had made. It gave him some relief: the blood was neither cupped nor buffed: at 10 o'clock Mr. Cooper and Mr. Jackson decided, that as the difficulty of breathing was greater, the jerk had increased, and there was great oppression and misery, although he was not in absolute pain, and the pulse was 112, (they only varied from 108 to 112 during the remainder of his life,) he ought to be bled again. Mr. Cooper tried and failed to draw blood from either arm, and I requested him to open the left temporal artery. This he did with his accustomed dexterity, but the artery would not bleed, nor another small branch which I opened myself, and only four or five ounces, at most, could be obtained. He had taken four grains of calomel over night, and was to have had a saline aperient draught every six hours; the nurse, however, who obeyed my directions to examine carefully all the excretions, informed me, that he had passed a tea-spoonful or two of blood, and the aperients were immediately suspended. I now had reason to believe, that the ball had not only wounded, but had penetrated the diaphragm, and had probably opened an intestine, and that the cavities of the chest and abdomen had both been injured, and must become inflamed. With a constitution apparently unequal to bear an inflammation of the most dangerous character, which I knew must ensue, or the remedies necessary to subdue it, the prospect was a melancholy one, and I did not conceal it from his family. Three dozen leeches were applied to the side, but they drew very little blood, and the bites would not bleed afterwards. Dr. Hume, an old friend, having called to enquire after him, I requested Mr. C. Drummond to add him to our consultations, night and morning, and we had the advantage of his assistance during Sunday and Monday. The symptoms of inflammation, which appeared on the Saturday morning, did not increase during the whole of Sunday, and at the consultation at 10, on Monday morning, we entertained some hope that they would remain within reasonable bounds. At 12, Miss Drummond sent to tell me that he was much worse. I found him suffering great pain and uneasiness at and under each wound, with a greater jerk and oppression in breathing. I ordered him half-a-grain of the muriate of morphia, and summoned Dr. Hume, Mr. Cooper, and Mr. Jackson for two o'clock. He slept a little, from one till two; the symptoms were, however, urgent, pulse 112, and it was at once decided he he must lose blood, and the cupper, Mr. Mapleson was in attendance; but as cupping is but a bad substitute for general bleeding, I determined to try again to bleed him, and the same vein which could not bleed before, now yielded twelve ounces, when the fat interfered, and no more could be obtained. The blood, before it separated into its solid and fluid parts, was actually like size in colour, and soon cupped to an extreme degree; its abstraction gave him relief. Two grains of calomel with half a grain of opium were ordered every two hours. At ten at night Dr. Hume, Mr. Cooper, and Mr. Jackson saw him again and although he had been relieved by the bleeding, and had slept a little, the oppression and painful uneasiness had returned with even greater severity, and he was again bled to the amount of from 12 to 14 ounces, when the blood ceased to flow, apparently from the same cause, the fat intervening, although the pulse remained unaffected. This again greatly relieved him. At five next morning (Tuesday) Mr. Jackson and I were sent for in consequence of the return of all the symptoms, and particularly the jerk and difficulty of breathing in a more aggravated state. He had slept but little from the opium, and it was not to be doubted that he would soon die unless relief could be obtained; twelve ounces more blood were accordingly drawn from the other arm. This time he bled freely, and more might have been obtained, had it been prudent to let it flow. It was equally as yellow, as cupped, and as firm on division when coagulated, and the solid part was in as due proportion with the fluid, as on the two previous occasions, and the relief obtained was equally satisfactory. I had seen Mr. Drummond six times in each 24 hours, besides an hour or two spent with him during the night. I had ascertained by ear, three times a day, the state of his chest, and when we met on Tuesday, at the usual hour of ten, I knew that our patient could bear no further loss of blood with advantage—that fluid was collecting in his chest, and that if he lived, it must soon be evacuated to prevent another evil more certainly fatal than even inflammation. It was with very mournful feelings I said to Mr. Cooper and Mr. Jackson, for whose able and cordial co-operation I am grateful, "If we bleed our patient again, we shall lose him, and we shall lose him equally if we do anything else."

Dr. Hume could not attend and as there was some doubt as to the quantity of fluid which there might be in the chest, and I was determined to leave nothing undone that could give him the smallest chance for life. I requested Mr. Charles Drummond to allow the nearest physician of repute to replace Dr. Hume. Dr. Chambers, on his arrival, approved of all that had been done, but could, unfortunately, add nothing to what was doing, and the calomel and opium were continued with an additional dose of morphia. I explained to him what would be necessary to be done in regard to the evacuation of the fluid in the chest, as soon as we could be sure that the quantity collected (which is easily ascertained by the ear) was seriously compressing the lung, and preventing he due admission of air into it. We met again at 4 P.M., by which time he had had some sleep, the uneasiness and oppression had lessened, the breathing was easier, he was in good spirits, and the pulse 112, compressible and soft, but not weak. He had lost about fifty-six ounces of blood by Mr. Jackson's computation, in four or five days. We thought him better, and expressed our hope

to his family that when we met at 10 at night we should be able to give a more positive assurance of real amendment. At 7, Miss Drummond sent to say some change had taken place, and that he was worse. I went to him directly, and found he had no pulse at the wrist. At 10, when the other gentlemen arrived, they were not less surprised than I had been at so sudden an alteration. He died at 10 the next morning without any greater suffering than that which he had always complained of, and particularly of an insupportable uneasiness and difficulty of breathing.

The *post-mortem* examination you know. The blood which was diffused over the right side of the abdomen must, I think, have been forced out on the separation of the injured part of some vessel, which had been hurt in the transit of the ball through the abdomen, but which was not discovered from the parts injured being impacted together from the effects of inflammation. I am of opinion than this bleeding principally took place on Tuesday afternoon, and was, in addition to the destroying and incurable nature of the wound, the immediate cause of his dissolution. The quantity of blood in the abdomen could not well be ascertained, as it was diffused over every part of the right side; it was not less than twelve ounces, and might have been twice that amount. He never complained of uneasiness in any part of the abdomen under the most careful examination, except beneath the part where the ball was extracted.

As I do not think, gentlemen, I shall write the fifth book, or at at all events, for some time, I will take up each of these subjects separately in some future clinical lectures.

LECTURES ON CHEMISTRY.

By JOHN SCOFFERN, M.D., Lecturer on Chemistry, at the Aldersgate School of Medicine.

THE substance, *iodine*, so allied in many of its leading properties to chlorine, was discovered in 1811 by M. Courtois, a manufacturer of saltpetre, at Paris; its properties, however, were first investigated by Clement, Davy, and Gay-Lussac. On account of the properties it has of yielding violet coloured vapours when heated, it has been termed iodine, from *Ioudes*, violet. Iodine is found in both kingdoms of nature rather widely, if not largely diffused. In the inorganized kingdom we find it united with certain ores of silver, of cadmium and zinc, and of lead. Sea-water from every region, so far as experiment has been made, contains it, probably united with sodium and magnesium, constituting iodides, or iodurets of these metals. Certain mineral waters also contain it: for instance, in a brine spring at Nantwich, in Cheshire, there was about a grain of iodine in twelve gallons. It has also been discovered in the rock salt of the Tyrol. The fact of its discovery in brine springs and rock salt is exceedingly interesting; for, on the supposition that both are the results of depositions from an antediluvian ocean, (which is the theory generally received) the latter must have had the same constitution as the oceanic waters of our own era. Iodine has also been found in several other mineral springs. Mr. Copeland detected it in the carbonated chalybeate of Bonnington; Dr. Daubeny found ten gallons of Robbin's Well at Leamington to contain about one grain of iodine; Cheltenham water contains it too, but in a much smaller proportion; iodine has moreover been discovered in several German, Italian, and South American mineral springs. In the organized kingdom the presence of iodine seems confined to certain of the lower animals and vegetables. The animal genera, Spongia, Gorgonia, and Doris, have been proved to contain it; and it is, moreover, found in the envelopes of the eggs of the *sepia*, or *cuttle-fish*. One instance occurs of its presence in the order *insecta*: near Acolti, in Italy, an insect has been found, termed by Savi *Iulus fœtidissimus*, which, when irritated or disturbed, emits a yellow fluid strongly smelling of iodine, and which yields a blue colour with starch: a character, as we shall see hereafter, which is peculiar to iodine.

In marine cryptogamic vegetables, iodine is very generally diffused, and it has been found in several species of phrenogamous plants. Iostera marina and a Mexican species of Agave, and of salsola, may be mentioned as examples.

Extensively diffused throughout nature, as we have described iodine to be, yet the only commercial source for this body is kelp—the result of the combustion of plants belonging to *Fucoidæ*, one of the divisions of the family *Algæ*.

The substance kelp, which is a semifused mass of ashes, from the plants just mentioned, and which contains a great number of saline materials, was formerly prepared almost for the exclusive purpose of forming the carbonate of soda; now, however, this salt is obtained from the decomposition of chloride of sodium, and kelp is almost exclusively manufactured for the purpose of obtaining from it ultimately the body *iodine*. The theory of the process will be rendered intelligible, by remembering that the iodine of kelp is in union with sodium and magnesium, as iodides, or iodurets of the metals; that these salts are more soluble than any other simultaneously existing in kelp; and that, when separated, they may be decomposed by heating with sulphuric acid and binoxide of manganese, yielding pure iodine,—just as chloride of sodium is decomposed under precisely similar circumstances, yielding pure chlorine.

In order, then, to proceed in accordance with these principles, kelp is first lixiviated with water, by which means a carbonaceous mass is left undissolved, and all the saline materials obtained in solution. This solution is then evaporated in an open pan, when the various salts which it contains are deposited in an inverse order to their solubility. First are obtained the soda-salts, namely, common salts, carbonate, and sulphate of soda,—all of which are separated by a perforated shovel. The liquid is then run into narrow pans, and allowed to cool, by which means are obtained chrystals of chloride of potassium. The same operations are several times repeated until certain indications of color and density prove that little except the iodides of sodium and magnesium remain. To this is added sulphuric acid in excess, which decomposes any carbonate there may be present, and also the sulphurets which have been produced during the burning of the plants. To the ley thus prepared is added peroxide of manganese, in a leaden retort imbedded in a sand bath, and heat being applied, iodine comes over, and is collected in proper receivers, mixed however with a variable portion of water, which is rather difficult to be separated entirely, and indeed which the manufacturer has no great inducement to attempt. Should it be desirable however to ascertain the quantity of water thus mixed with any sample, the problem may be thus solved:—Heat the iodine in a tube with a little fused chloride of calcium, which substance absorbs all the water, and at the same time becomes mechanically mixed with iodine; on increasing the heat, however, the latter may be entirely dissipated, leaving nothing but chloride of calcium, and the whole of the water, consequently, the increased weight of the chloride of calcium corresponds to the amount of water; originally present in the specimen. The theory of the liberation of iodine by the action of sulphuric acid and the oxide of manganese on the iodide of sodium, or magnesium, or both, is precisely analogous to the change which takes place when chloride of sodium is similarly treated, and on the supposition that iodide of sodium is alone present is represented by this formula—

$SO^3 + MnO^2$ and NaI give $MnO.SO^3$ NaO and I.

Iodine has a bluish black color, something resembling in appearance plumbago, or black lead. It is a non-conductor of electricity, and whether passed through red hot tubes, or treated in any other way, it has never yet been resolved into any simpler form. It is soft and friable; its specific gravity has never been correctly determined. Thomson makes it 3.08—Gay-Lussac 4.946. It produces a yellow stain upon the skin, which, however, is removed by the application of liquor potassæ, or by heat,—thus distinguishing it from the yellow stain produced by nitric acid. When moist, it is exceedingly volatile, yielding at a temperature between 70° and 80° a pale violet colored vapour. At 220° it fuses, and at 350° boils, and produces fumes of a denser color, which yield brilliant plates, and acute octohedrons on cooling. Iodine may be obtained from solution in the form of oblique octohedrons, with a rhombic base, or in prisms. The vapour of iodine is exceedingly heavy, its density being, according to calculation, 8707. Iodine is slightly soluble in water, seven thousand parts of the latter dissolving about one part. In alcohol and ether its solubility is much greater. It may also be dissolved very readily in solutions of the iodides. The peculiar color of iodine vapour is, in many cases, a sufficiently characteristic test; but a far more delicate one is starch, as was discovered by Messrs. Colin and Gaultier de Claubry. To this it imparts a blue colour, capable of removal by the application of heat or an alkali. Microscopic experiments teach us some very curious facts in relation to the mutual action of iodine and starch: the latter substance is composed of minute globuloid molecules, composed of an external envelope, *amydon*, and an internal gelatinous mass, *amyline*. Now it is on the former alone that iodine exerts any agency. We learn, too, that no two vegetables of different kinds yield starch molecules of the same shape or size; thus preparing us to expect some differences in chemical composition. Such have not always been satisfactorily established, but at all events, iodine yields with different varieties of starch different shades of blue, and *inulin*, a starchy substance obtained from the *inula hellenium*; or elecampane merely tinges a solution of iodine slightly yellow. In testing for iodine with starch, it is indispensable that the solutions be neither alkaline nor hot; in the former case two salts are produced, namely, an iodide of the metallic radical, and an iodate of the alkali, neither of which is capable of acting on starch. The action of heat in removing the colour is not understood; theory would indicate that the iodine, being volatile, is eliminated—such cannot be the fact, inasmuch as the colour returns when the solution has again become cold. Iodine is said to be occasionally adulterated with plumbago, sulphuret of antimony, or peroxide of manganese; frauds which can be easily detected by the action of alcohol,—all except the iodine remaining undissolved. The atomic weight of iodine may be considered as about 126. In all its relations, iodine presents a remarkable analogy to chlorine; but its action is not so powerful. Like chlorine and oxygen, it appears at the positive pole or anode of voltaic arrangements, and is hence classed with the electro-negatives. Thus much, then, for the properties of iodine in its simple or uncombined state; we now come to its combinations with oxygen. Of these there are three, or according to others, four, represented by the accompanying table.

	O	I	
Oxide of iodine....	1	1	?
Iodous acid	2	1	?
Iodic acid	5	1	
Periodic acid......	7	1	

Of these only the iodic acid is important or interesting; the composition even of the two first is undetermined. Periodic acid is prepared by a tedious process, and is so unimportant an agent that I shall not mention it further. Iodic acid is, as you will have perceived by the table, a compound of one eq. iodine and five oxygen, being analogous in this respect to the nitric, chloric and bromic acids, with all of which indeed it corresponds in many leading properties. Iodic acid cannot be obtained by the direct action of oxygen upon iodine, hence the processes for making it are somewhat complicated. According to Mr. Connell it may be prepared by boiling iodine for several hours with about five times its weight of strong nitric acid. The theory of the preparation of iodic acid by this process is very obvious; nitric acid, as is the usual result under similar circumstances, that is to say when boiled with substances greedy of oxygen, yields up this latter element in the requisite proportion. I have tried this process several times, and have never found it capable of yielding a good result. A better process, although exceedingly tedious, consists in bringing the vapour of iodine in contact with protoxide of chlorine, prepared by the action of hydrochloric acid on chlorate of

potash; two bodies result, chloride of iodine and iodic acid, the former of which may be driven off by the application of heat, leaving iodic acid pure, in the form of a white powder, very soluble in water. Its solution possesses acid properties in a very marked degree, tasting exceedingly sour, and strongly reddening litmus. On a solution of cold starch it does not exert any action, but when mixed with deoxidizing bodies, such as sulphurous acid, or chlorine, and then added to a cold solution of starch, the usual blue colour appears, on account of the abstraction of oxygen, and consequent liberation of iodine. Hence it is that iodic acid is a very valuable re-agent for determining indirectly the presence of sulphuric acid. The theory of this action involves certain substances not yet spoken of in these lectures, but still I hope to render myself intelligible. I must premise that although we possess a very good direct test for sulphuric acid, or oil of vitriol, in baryta, or soluble barytic salts, yet it is absolutely necessary to their complete action that the sulphuric acid be uncontaminated to any very great extent with organic matter. It follows, therefore, that in case of poisoning with sulphuric acid the determination of the presence of this substance is by no means easy according to the usual course of proceeding. If sulphuric acid, which is composed of one eq. of sulphur + three of oxygen, be heated with almost any carbonaceous body, two eq: of oxygen are removed from every two eq: of sulphuric acid, carbonic acid escapes, as also does *sulphurous acid*, or SO^2. That sulphurous acid really is eliminated during this proceeding may be determined by heating a fragment of vegetable or animal matter, such as cork or feather, with sulphuric acid in a test tube, when there will presently be given off a gas smelling like an inflamed brimstone match; this is sulphurous acid. Sulphurous acid then is nothing more than sulphu*ric* acid deprived of a portion of its oxygen, which portion will be absorbed again on any convenient opportunity. Now iodic acid yields up its oxygen with great readiness, and a stream of sulphurous acid being passed through it, there result free iodine and sulphuric acid. From a consideration of these facts we learn a very easy process for determining the presence of sulphuric acid in a stomach. We will suppose that it is there mixed with all manner of animal and vegetable substances. The latter *cannot* be separated, nor *must* they if possible; but the whole of the contents should be placed in a capacious retort, together with a little powdered charcoal, to insure the presence of a sufficient quantity of carbonaceous matter; the beak of the retort being inserted under a mixture of starch and iodic acid, the heat of a sand bath should be applied. Presently, under these circumstances, sulphurous acid is liberated, which decomposes iodic acid, abstracting oxygen, and necessarily eliminating iodine, which latter immediately tinges the starch blue, whilst sulphu*ric* acid, proportionate to the quantity originally existing in the stomach, is left in the vessel containing the starch and iodic acid. For sulphuric acid, then, iodic acid is a valuable test; it is also a test for morphia, which abstracts oxygen from it, although slowly, and of course renders it capable of imparting a blue colour to starch. Chlorine and iodine unite together in two proportions, but the resulting compounds are unimportant.

COURSE OF LECTURES ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM,

By MARSHALL HALL, M.D., F.R.S., Fellow of the Royal College of Physicians, London, &c. &c.

(LECTURE IX., Delivered December 21st, 1842.)

GENTLEMEN,—Before I proceed to the subject of the true spinal marrow, I wish to draw your attention to a point or two which I left unnoticed at the former lecture. Now, if you fix your eye on the line marked A B in the diagram before you, you will see that it denotes the seat of hemiplegia, arising from blood effused in the cerebrum. You will remember that when laceration takes place, then hemiplegia occurs in the opposite side of the body; so that, when the paralysis is complete, the patient cannot move the hand or the leg—or, if he can move it at all, he does so very inefficiently and very imperfectly. The act of volition, in that case, has been by some power or other severed from the paralytic side; there is a division between the seat of volition and the muscles, which ought to be moved by the action. At the same time, when the patient is affected by any emotion or anything of that sort, it is precisely that arm and leg which are the most moved. Therefore, though the volition be severed from the paralytic muscles, motion is not; the seat of volition is, but the seat of motion is not. What is the conclusion to which we must here come? Most assuredly—that the seat of motion, wherever it be situated, must be seated near the spinal marrow in that line which I have indicated; and I want you to see distinctly that the seat of volition is higher in the nervous system than the seat of motion. The same thing applies with regard to respiration: if a patient yawn you find that the paralytic arm is moved, though he cannot move it by any effort of the will. What is the conclusion here? That the source of motion in the act of respiration is situated lower down than the seat of volition. This you see is an important practical point.

Now we know that the source of volition is in the medulla oblongata; why should not the source of motion be in the medulla oblongata? Now I believe that motion has its sole source in the medulla oblongata, and the argument I have adduced goes far to prove, at any rate, that the seat of motion is below the seat of volition. Now we know that in paralysis, which takes place from a lesion of the spinal marrow, producing paraplegia, though both the seats of volition and motion are entire, the arm is moved independently of the former. The conclusion is, inevitably, that the seat of volition is higher in the brain than the seat of motion. This is not all, for there is an extraordinary set of facts respecting pain. You are aware, because I have repeatedly mentioned the fact, that lacerate the brain as you will, you have no pain—the olfactory nerves exhibit no pain—the optic, or the acoustic nerves exhibit no pain; there is no pain inflicted in any of these nerves of the brain, but touch the fifth pair of nerves, which are the nerves of touch, and you have pain. Does not it strike you as an extraordinary fact, that the nerve of one sense should be susceptible of pain, and that the nerves of all the others should not? Yet it is so, and what is the conclusion? It is this, that the fifth pair of nerves contain, besides the nerve of sense, some other nerve that belongs to the spinal marrow, which is the seat of pain.

Now I will detail a very interesting experiment, performed in the most perfect manner, many years ago, upon a rabbit. This little animal was entirely deprived of the cerebellum, and there was no brain left, but the medulla oblongata remained and the animal breathed. When the tail was pinched violently with the forceps, the animal actually cried; therefore I must not only conclude that the medulla oblongata is the seat of motion, or that it is the seat of the power of respiration, but most probably that it is the seat of pain. There is another thing with which I conclude this observation; it is this—that not only is the fifth pair of nerves capable of conveying pain, but under peculiar circumstances the internal nerves, those nerves going to the intestines and the stomach, and the pleura, are capable of conveying pain. With regard to the intestines and the stomach, that which is said to have nothing at all to do with pain, is actually the seat of pain. I have not time to go into this subject, for it would take too long.

We now return to the first part of the argument; when the cerebellum is removed, or disease cuts off the seat of the will, still emotion agitates the paralytic limb, therefore the seat of emotion must be situated lower down than the seat of volition. The seat of respiration we know is in the medulla oblongata. I give that as a reason why the seat of pain is there too. Now I want to bring before you a practical argument; and it is this. You will bear in view the different portions of the spinal marrow, and the manner in which the nerves of the lower part of the spinal marrow are sent off, not only those that constitute the *cauda equina*, but the others situated above. Suppose a patient comes to you with paraplegia, as a patient came to me not a very long time ago,—I am alluding to the case from Manchester—saying, "I have no sensation above this part of the body; my inferior limbs are destitute of sensation and voluntary power, I have lost the power of the sphincters. I am not conscious of sitting down; I have no sensibility." That patient came to me marked with setons and issues on each side of the sacrum. Now it is quite certain that if the disease had got as low as the sacrum, these measures would not have affected those nerves going to the inferior extremities, and therefore I do not see the use of the setons and issues below the sacrum. In order to apply this to disease, we must consider, naturally, the parts affected which produce sensation; we have not to think of those nerves that go to those parts, but it is the origin of them that we have to see to. There was not merely paralysis of one limb, but of both; and in order to have paralysis of both the inferior extremities the disease must be situated in the spinal marrow, that part of the spinal marrow from which these nerves derive their sensation. If you have a reflex action in spite of the disease, a portion of the spinal marrow is left entire; but if you have no such reflex action there must be disease as low as the point at which the spinal marrow terminates. Now when you apply your setons you will adopt—what measures? Certainly apply them a great deal above the parts to which they have been usually applied. Therefore suppose the loss of sensation and the loss of voluntary power is at the ischium and the ilium, we must consider the nerves from their origin in the spinal marrow, and apply the setons accordingly; how much higher the disease may be it is impossible to say, except the height of it can be traced by some other symptoms. For instance, suppose a patient has a sense of a cord passing round the stomach, I need not tell you that the disease is at the epigastrium, and therefore, in the former case, you might apply your remedies higher than in the latter; but suppose, as very often happens in some diseased states of respiration, the spasmodic affection takes place in one or both sides in the intercostal muscles, then the remedies must be higher still. Suppose the patient has difficulty in breathing, and there is an affection of both upper extremities, then your setons must be applied above the origin of the cervical plexus. After what I have said, you will in the application of your remedies be quite careful not to apply them below the seat of the disease.

You are aware of the peculiar paralysis that takes place in the colica pictonum; the muscle paralysed is called the *extensor carpi radialis longior*, and has the peculiar power of sustaining the wrist: the bones of the thumb are incapable of being extended, though the wrist does not drop, and the ball of the thumb is exceedingly emaciated, so that you can trace the bones of the thumb with great facility.

There is only one concluding remark to this subject which I ought to make. I believe that the affection in this case as, for instance, in inflammation, may run along all the nerve, and create undue sensibility a good way up the arm; and it is quite plain it takes place along the whole course of the nerves, and I can only compare it to the inflammation you see in some severe cases of typhus. The blood becomes congested, its power is annihilated, and the muscles do not contract for want of nervous influence. The nervous influence is not there, for the reason I stated to you. In palsy of the hand you have therefore three things, a loss of nervous power running along the whole course of the nerve, an absence of irritability in the muscular fibre, and atrophy.

I said I had only this concluding observation to make, but it appears I have another concluding observation, and it is this: I told you that, in reference to apoplexy of the brain, the opposite state of the brain is what I call an adynamic state. I told you what occurred in the case of *delirium tremens*, and in that case of affection of the brain there was intolerance of light and sound, and symptoms of mania arising from intestinal irritation and the loss of blood, as well as other symptoms. This I consider to be an *adynamic* state, a true adynamic state of the spinal marrow. We know that there is inflammation, congestion, and apo-

plexy in dynamic states of the spinal marrow, and we know that there are also adynamic states, such as frequently happen in paraplegia, not perfect but imperfect. In this affection of the spinal marrow, when it is perfect, sensibility is gone, the muscular motion is entirely gone, entirely eradicated. This case I believe very often ensues from excessive sexual abuse of any kind. I mention this to you as a fact, and you have to trace to this, the practical effects exhibited in the future life. This takes place in a dynamic stage.

I have now to bring before you the subject of epilepsy. With regard to epilepsy, it, like many other diseases, may be traced first of all to the centre of the spinal system, and, in the second place, to the incident nerves that lead to that centre. In the first place, I have to refer to centric epilepsy—I use the term centric for want of a better term,—and, in the second place, to excentric epilepsy. Another phrase for centric epilepsy has been adopted—centripetal; that is to say, diseases referred to the centre of the whole nervous system, as contra-distinguished from those distant from the nervous system. I must, first of all, say a few words respecting centric epilepsy. Centric epilepsy comes on from some affection of the brain, inducing some morbid state of the centre of the spinal system; a disease of the brain communicated to the spinal marrow, and leading to a state of irritation, and to nothing more; for I need not tell you that if the state of the disease went on to produce any further effect you would have paralysis with epilepsy. It has been found that a spicula of bone has passed into the cavity of the cranium, or into the spinal canal; and this acts as an irritant. You will remember the remark I made some time ago, that this irritant passing into the cerebrum will produce no epilepsy, because no irritation of the brain can produce any muscular motion: therefore it must be taken as certain, that in the case of a small bone producing epilepsy in the way I mentioned, it must produce epilepsy, not by irritating the brain, but by irritating something else. You will remember the brain is incapable of sensation; you cannot produce any effect by irritating the substance of the brain, but you may by irritating the membranes of the brain. We know, that irritation of the fifth pair of nerves going to the brain, will cause epilepsy. Now, it has been proved that injury of the lining membranes of the spinal marrow will produce certain states resembling epilepsy: therefore if you have spicula of bone producing epilepsy, you have not only the nerve irritated but the membrane of the nerves, and not the brain itself. And therefore, a tumour, or any source of irritation, may be the means of producing epilepsy; in fact, other things produce epilepsy, as, for instance, congestion of the brain, attended with convulsive motions; a state of congestion once produced, may, therefore, produce similar motions, which may go on to the extreme state of epilepsy.

There is one other cause of epilepsy which I must mention. It is a disease the most severe of any I have ever met with, and which seems to be almost incurable; it is that disease which results from fright. I am not aware of any case that has yielded to any remedy; probably some may, but I have not met with any yet. Epilepsy arises from fright, and whenever fright produces epilepsy, it is a spinal affection, and you cannot trace it beyond the spinal system—the true spinal marrow itself.

I have now gone through all the symptoms of centric epilepsy, and, therefore, what I am now going to say refers to the subject of excentric epilepsy. Excentric epilepsy may be traced to three causes, as shown in this diagram:

TABLE OF EPILEPSY.

1. THE EXCITORS.	2. THE CENTRE.	3. THE MOTORS.
1. The pneumogastric in the stomach	The Medulla Oblongata.	1. The recurrent of the pneumogastric, closing the larynx
2. THE SPINAL.		2. THE SPINAL. Producing
1. The intestine		1. Forcible expirations
2. The uterus		2. Convulsions
		3. Expulsion of the urine, &c.

In tracing the causes of epilepsy we must go to the nerves. In the first place, the *gastric* nerve is affected from some morbid state of the stomach; or, secondly, it may be the *splanchnic* nerve from some morbid condition of the intestines; or it may be, thirdly, uterine, where it indubitably does arise from an affection of the uterine system. When the stomach, the bowels, and the uterus are in a morbid state, this morbid state may act on the nerves proceeding from those organs just in the same way that cold water acts on the nerves of the face, affecting through their medium the centre—the spinal marrow itself; and then, reflected from the spinal marrow, you may have all the symptoms of an epileptic seizure. What then are all the symptoms of an epileptic seizure? You have only to refer to what I said respecting the true spinal system, and just call to your mind all the points supplied by that system, and then you can account for all the symptoms characterising an epileptic seizure.

Now I shall first of all describe an epileptic seizure, and I can do so the better because I have seen such a case this morning. Now the first thing I observed was some impediment in the breathing. The larynx is affected in an epileptic seizure. It often happens that the larynx is partly closed, and there is a feeling of nausea and stertorous breathing. There is, you cannot fail to observe, a difficulty to expire, and in consequence of that the patient becomes flushed in the face, and by and bye becomes comatose. The larynx, then, is the first part affected in an epileptic seizure. Now I have to state a fact which is an exceedingly interesting one; and that is, an affection of the larynx sometimes precedes an epileptic seizure. I have a patient whose wife can partly tell when the affection is coming on, because he is affected with a husky voice, something like that of a catarrhal cold; yet, his wife was enabled to distinguish it from the voice of a cold, from the habit of frequently observing it. This is one of the premonitory symptoms. The larynx, too, remains affected after an attack. After a short time he lost his voice altogether. What do we next observe? The eyes are affected. I have seen the eyes rotate, and when that happens one side of the body is affected more than the other. The eye, therefore, is the next point offered by an epileptic seizure. I need hardly tell you, that with the state of the larynx to which I have alluded, the respiratory muscles are affected more or less under the influence of the true spinal system. Another thing not to be forgotten is the difficulty in swallowing. I was almost terrified by the attempts of the patient to swallow a little sal volatile. Gargles were tried, but scarcely ever swallowed; and at other times the matters that were given were all withdrawn into the larynx. One thing should not be done: you should not attempt to give anything to the patient during an epileptic fit.

All the muscles of the frame are violently convulsed: both the superior and inferior extremities. Now what takes place next relates to the true spinal system, and these symptoms relate to the lower part of the abdomen. You have very frequent evacuation of the bladder and of the rectum; these are not uncommon symptoms in a state of epilepsy. What more can be said to prove that the true spinal system is affected! You observe that the flow of the catamenia occurs in the female sex, and you find that every function that relates to the true spinal system is partly affected in this terrific disease. Now, to revert to the causes—what are the causes of epilepsy? Precisely those that happen through the medium of the incident nerves; for instance, any crudities in the stomach. I have been called to see a patient who died in a state of epilepsy and whose stomach revolted against everything. That patient, who never had an attack of epileptic seizure, and, probably, never would have had it but after meals, was a lady, who for a long time, had an attack every day after dinner. The object to attend to there, was to pursue mild measures, to give a mild breakfast, a similar lunch, and a similar dinner; and being put upon this diet, which comprised asses milk, she was for a long time without any epileptic seizure. This lady a very short time ago, ate water cresses for breakfast, and that very day she fell down with an epileptic seizure. Now, if the bowels get wrong the patient may have an epileptic seizure; the patient may go on very well afterwards, but is liable every moment to a renewal of the old attack.—Nothing tends so much to produce an epileptic seizure, as anything that irritates the intestines; and if true epilepsy arises from the intestines you may be perfectly sure that the intestines are in a disordered state. In fact, every disorder in the intestines will produce it. Here the true source of the affection is the *excito-motor* nerves; but it is singular enough that the very same nerves, when irritated, will produce epileptic seizure in one person, and in another, those nerves will produce vomiting. I have observed, with regard to the female sex, that the epileptic seizures occur more at one period than at another; it is either just before the catamenial flow, during it, or just after it. Here you have a proof of the epileptic seizure, being one of the excentric kind, and induced through the incident nerves in that state of the uterus. I shall by and bye show another fact that relates to the pregnant state of the uterus, for you are aware of the convulsions that take place in certain states of the uterus during pregnancy. I have proved to you that epileptic seizure has reference to the true spinal system. Does that leave the brain entirely out of the question? By no means. Then you will say, why place it out of the question in a case of epileptic seizure? With reference to what I said at the beginning, that the larynx is frequently closed, and that there are violent efforts of expiration, the veins of the neck and face are swelled, and there is a flushed face, you may be perfectly sure, that if there is a flushed face, there is congestion: it is plain, therefore, that the brain is congested *pari passu*, with the diseased state of the nerves. Now, I go further than this: you find on the face ecchymosed spots, which do not disappear under the pressure of the finger; and I suppose, in that case, that under the effect of this closure of the larynx, and the violent expiratory efforts to expel the air from the lungs, the capillary vessels are filled, and the blood is not expelled;—it is venous blood—not arterial blood. This is one of the consequences I have repeatedly seen in a state of congestive apoplexy of the brain. Now, there is a curious idea I have often heard, and it is this,—that in this state of the brain, when the patient is so convulsed, tracheotomy will prevent the violent congestion of the brain, which occurs during an epileptic seizure. I do not recommend it to be done. Now, why do I think there may be congestion?

I want to introduce to you one or two interesting facts. I spoke of epilepsy as being a true spinal disease, but there are cases of epilepsy so different from anything I have described to you, that I am not very sure that they are produced by disease. In one case an epileptic patient shall be reading, and all of a sudden will stop reading. There is an annihilation of thought, a loss of all recollection—what some have described as absence of mind. The oblivion, however, is so short that the patient comes to himself almost immediately, and it is not accompanied by any of the consequences observed in the more determined disease. I have had a number of such cases, in which there has been a sudden loss of recollection, a loss of mind for a moment. The patient has stopped reading, and in a moment or two he has continued with the word with which he stopped. You see this is a case of epileptic seizure, and not of the true spinal system. But I think there is some little difficulty in this. I think it very probable that the muscles closing the larynx, are contracted from the disease so as to produce a momentary congestion, and that issues in momentary delirium from the determination of blood. However true my explanation may be, the fact is true, namely, that the patient is attacked with a momentary loss of mind and consciousness. There is another form of epilepsy I must mention to you, a form that you may be acquainted with, as it is a form not unusual, that is, a loss of the power of the muscles of the head. There is a momentary loss of consciousness, and a momentary loss of power in the muscles of the head.

These are the principal forms of epilepsy

that I have to mention to you, and I think that in what I have said, I have given you a clear idea of all the symptoms of the disease. We now proceed to the treatment. The treatment almost suggests itself to you; yet there are a great many remedies, and it is exceedingly important that you should ascertain which to use. In the first place you have to endeavour to abate the symptoms. In the second place we must look to the intestines. With regard to the intestines, drastic purgatives do not do good; the best plan is to give some mild aperient over night, and wash out the intestines next morning. I may give an illustration of this injection. If the syringe is used repeatedly the intestine is distended, and the pain is increased by stimulating and irritating the intestines, and the plan to adopt is to fill the intestine but not in the least to distend it. Having washed out the intestine, the next plan is to give something of a soothing and quiet nature; to desire the patient to take a warm bath, and to give warm drinks. I am quite sure that this plan has a very important advantage, particularly with reference to the uterine region. It is not only important to prevent an attack, but if a person has had one attack he is almost sure to have another; and sometimes—and it is a very curious fact connected with attacks of epilepsy—if a person is some time without the usual attack, there is great danger of another attack. Sometimes you find that there is one attack, then some time after, another, and after another relapse, two together. Until something has taken place in the constitution, the attacks are liable to be repeated. If a patient has been without an attack some time, there is danger of another, and when that does take place you have no longer the same degree of danger; but, when he has had only one attack, there is danger of a second or a third, it may be one, more frequently two, and sometimes three, before the tendency is entirely exhausted. Now, I have sat by a little child, with a feather dipped in cold water, and have dashed the cold water on the face to prevent the larynx closing, and to produce an act of respiration, and I have kept off the violent convulsions for hours together. With a patient residing near me, I have occupied nearly three hours in that way. I dashed cold water into the face, the air passed into the lungs, the larynx opened, and the attack was kept off for the moment. There is a very interesting paragraph in the work of the late Dr. Davy on treatment for convulsions; he adopted the same measure, that of dashing cold water on the face, and kept off the convulsions. I have a patient who for some time was afflicted with epileptic seizure; I was obliged to tell him to give up his office, for he had been a good many years subject to epileptic seizure. He had a little husky voice, and whenever his lady observed his husky voice she gave him plenty of boiling water to drink, and tickled his fauces with a feather, so as to produce a kind of vomiting. Again the attack came on, and she kept it off in that way again and again. He was obliged to adopt a degree of fasting. Suppose the attack made its appearance in the morning, he would take no dinner, except a little barley water, and a mild aperient at night, and he would thus escape the attack. Now you will observe there are a number of things to do. In order to go to work immediately, look to the state of the stomach and the state of the bowels, and then you have to consider whether you cannot do something by dashing cold water on the chest, and then try to produce vomiting, by the application of something to the fauces. Sometimes a pinch of snuff, to produce sneezing, upon the same principle prevents epileptic seizure. These things should be borne in mind, because they are of constant operation, and are therefore of great importance when you are called to see a patient in a state of epileptic seizure.

Before I conclude this subject I must say one word respecting that state of the brain that occurs after an epileptic seizure. Generally speaking, it is a state of apoplexy or coma, a state of stupor or sleep; the patient almost invariably sleeps after an attack of epilepsy. This fact may lead you to adopt some important measures with respect to this disease. Sometimes the patient sleeps for a day, or even the next day: sometimes he may continue to sleep for a day and a night. I remember a case of a patient in a state of deep coma, but he died of apoplexy. He ought not to have died, that patient was not bled. If I were called to such a patient I should bleed him, because I should know that there was apoplexy. After such a state a patient becomes liable to such attacks, and I would relieve the brain for fear it might undergo some injury. If this state continue, I need hardly tell you that it will lead to effusion, and the longer it does continue, the more injury will the brain suffer.

PHYSIOLOGICAL CHEMISTRY.

(By Mr. PRATER, Lancet.)

(Concluded from p. 390.)

All the various actions already alluded to, platinum in nitric acid, crystalisation of a saturated saline solution, &c. &c., cannot be referred, as he would insinuate, to the same cause: we have only to look more narrowly into the phenomena, to be convinced of this.

There is one thing in regard to fermentation, where vegetable juice (where gluten) is present, that distinctly separates such phenomenon from the great bulk of chemical actions; I allude to the reproduction of the ferment, which, says Liebig, is sometimes twenty times its weight.—(*Op. cit.*, p. 588.)

Now the resemblance between this action and that of nutrition or generation in living matter, cannot fail to excite notice: for here we have matter converted into its *like* from the contact or action of other matter, carbonic acid and heat being evolved too, as when new organic beings are produced. And to make the analogy still more complete, this reproduction of the ferment only takes place when the solution contains gluten; or, in other words, a vegetable juice, possessed, like the blood of animals, to a certain extent, of life, as containing *globular* particles; for (says Liebig) when only a solution of sugar is used with the ferment, there is no reproduction of this latter: the action then, when no gluten is present, merely *extends, or spreads,* as it does *in combustion.* In the mere fermentation, &c. of sugar, the whole of the matter is *changed* into combinations of a less organic character than sugar, viz., alcohol and carbonic acid: so it is also where gluten is present; but besides this, in the latter case is a real formation of *organised*, or *incipient* organised, matter. And it is worthy of observation, that, as when sugar and yeast only are present, there is no reproduction of this latter; in like way, when only gluten is present in solution with the yeast, the yeast is not reproduced. Sugar must be present, which is for the most part changed into carbonic acid and alcohol, the remaining part, by its decomposition, affording oxygen to the gluten, which in this way is changed, says Liebig, (*Op. cit.*, p. 239,) into yeast. If we adopt this explanation, the presence of sugar only becomes necessary in the formation of yeast, by imparting oxygen: but there are some objections to this view, which would almost reduce fermentation to an action of ordinary inorganic chemistry, Liebig's express object. These objections are,

1st. From experiments that I have lately made (with a different object in view indeed,) it was obvious that when polished iron, or bright iron filings, was put into the thickest syrup, or into hot fused sugar, no oxidation whatever took place. So far then as iron is concerned, a solution of syrup is not so much an oxidising agent as common water.

2ndly. Why, if oxidation only, be the cause of the reproduction of the yeast, is it not reproduced when a solution of gluten containing yeast is merely left exposed to the atmosphere? * Liebig says, "in different parts of the work under consideration, that gluten has a strong affinity for oxygen." And, indeed, the fact seems, that when a vegetable or animal juice is exposed to the air, oxygen (as in all cases of putrefaction) is absorbed: and although the product in that case is a fluid or mass that will excite fermentation, for Liebig says expressly (p. 259) that perhaps all matters (see his long list), animal or vegetable *themselves in a state of putrefaction*,† have this effect, still this product would not, I suspect, be *yeast*.

As, then, the production of carbonic acid and alcohol from sugar can be effected by no other known means than the presence of yeast (Graham's Elements, p. 196), so, likewise, in all probability, that can be formed by no other known means than by the *action of itself* on sugar and gluten in the same solution.

This view of the subject, will make the formation of yeast very similar to the reproduction of life in the highest order of animals; and Cazniard de la Tour's paper in the Annales de Chimie, is in support of the action arising from the reproduction of vegetable germs; an opinion, indeed, opposed by Liebig, but, as appears, in my humble opinion, on insufficient grounds. But for the sake of argument, let us take the opposite view of the subject (for Liebig does not seem to give a very clear opinion on this case), and conceive that when a piece of putrid vegetable or animal matter excites fermentation in a mixture of sugar and gluten, yeast is produced, just as when yeast itself excites the action; then let us also conceive that yeast may sometimes be produced when a mixture of vegetable juice (gluten),‡ and sugar is exposed to the air (simply to enable it to absorb oxygen), no yeast being added, and what would be our conclusions? Why, if yeast could be produced under such circumstances, the formation of that substance, doubtless, could not well be likened to the generation of a seed from a seed; to the production of life, as among the *great mass* of plants and animals; to the production of life from its *like*. But, still, under such circumstances it would be

* At p. 379, when comparing the action of fermentation with contagion, Liebig says, "The ferment acts on the sugar, and occasions in it a change, in which the gluten takes no part; but by the influence of the *air*, this undergoes an alteration of form and composition, in consequence of which the ferment reappears again with all its properties." This statement seems, in some degree, incompatible with that at pages 288, 289, already quoted, but perhaps not entirely so; for both agree as to gluten being changed into ferment, by absorbing oxygen. However, in p. 288, it appears that this change may take place, and generally does take place, without the access of air; and in such case Liebig supposes that the oxygen necessary is derived from the sugar.

† Colin, however, seems to have made this discovery, or other authors previous to Liebig. There are fewer new facts in Liebig's essay than might be supposed; its great merit consists in an attempt to generalise well-known facts. I somewhat regret that such an attempt should be unsuccessful; since it is setting so good an example to the chemical world in general, *who neglect too much the classification of well-known facts.*

‡ Ferment or yeast would only be produced under such circumstances in case *sugar* were present. Now, as sugar is present in vegetable juice, and also in an infusion of malt, ferment or yeast can, in all probability, be generated when such matters are exposed to the air, inasmuch as a decomposing or putrid solution will be produced; for vegetable juice produces ferment under such circumstances, and Liebig says (p. 288) that seems identical with yeast in properties.

similar, if not identical, to *the action of equivocal generation among animalcules*, or nutrition in the animal and vegetable kingdoms. For the production of animalcules (the infusoria) all that seems necessary is, that the conditions of putrefaction (i.e. an organic solution at a certain temperature in contact with air) be present; the air in this case seeming in some degree to supply the place of a previous living monad, and exciting to action by the absorption of its oxygen; but if yeast were formed, when sugar was put into the organic solution in question, instead of, or in common with, infusoria, the production is only that of the lowest vegetable, instead of the lowest animal, life. The analogous formation of infusoria (an organic solution being absolutely necessary for the formation of these) would make the action still come under the class, if we may so speak, rather of vital or organic, than common, chemical actions, *particularly as the yeast once formed has, like the infusoria, a power of propagating its like.* This is the consideration that would make the formation of a yeast, under *any circumstances*, rather like an organic or a vital, than merely a chemical, action. In all probability, the products in organic bodies are the result of the operation of *ordinary chemical affinity*, modified only by the circumstances in which the molecules are placed by the operation of vital action: but there is this difference in vital operations, viz. that many kinds of matter, different in appearance, taken into the living body, are all converted into the same substance, or go towards forming a whole, similar to the one in which they are received. The only point in which these different substances must resemble each other is, that they must consist of *organic matter*: just so, if we suppose yeast may be formed from various decomposing organic products, supposing that may be the case, it is still certain that none but *organic* matters will do for such transformation; but if yeast can reproduce itself from such matters, such matters will be similar to food, as taken by living beings, and the production of yeast will resemble the act of nutrition.

Value of Quinine in Typhus.—A commission appointed to examine into the correctness of a memoir addressed by Broqua to the French Academy of Medicine, reports that some of the cases cited in the memoir are not proved to have been veritably typhoid, and that no proof is adduced of the quinine administered having been the means of cure. The report remarks, that "one interesting fact confirmed by Sig. Broqua's memoir is the general harmlessness of the sulphate of quinine in full doses. In the discussion that followed its reading, M. Piorry stated, that in typhus fever, with engorgement of the spleen, he had seen quinine prove serviceable, which had not been the case when the fever was unaccompanied with splenic lesion. M. Martin Solon, who had employed the remedy under the personal inspection of Sig. Broqua at the Hôpital Beaujon, admitted that in cases in which the fever assumed a remittent type, quinine was useful, but that remittent typhus was rare,—at least at Paris. Much doubt was expressed by several members of the academy as to the innocuity of large doses of quinia or its sulphate.

Solution of Aconite in Rheumatic Affections.—M. Busse recommends a mixture of 4 *grammes* of extract of aconite with 30 *grammes* of antimonial wine. Thirty or forty drops to be taken every two hours. In one patient M. Busse administered as much as two *grammes* and a half of the extract, without producing narcotism. M. Busse states this medicine to be of great efficacy in chronic rheumatic pains, as also in pains in the teeth originating from the same cause.

TO CORRESPONDENTS.

We tender our acknowledgments to our talented contemporary, the "Shropshire Conservative," for his flattering notice of our work.

H. W. Dewhurst, Esq.—*We are obliged to decline this gentleman's liberal offers of literary aid.*

Dip.—*The two numbers named will be sent: the cost will be 8d. On Dr. Sinclair's Joint Stock Medical Institution at Hulme, we are loathe to express our opinion. We are told that the president, or medical officer is a medical reformer, and the author of a pamphlet on medical reform. But if the members of a Medical Reform Association can club together to get a journal at the mere expence of paper and stamps, (that is, without profit to any body but themselves) is it wonderful that such men's patients should join together to get medical attendance a bargain? The spirit of avarice, the philosophic motor principle, intense selfishness—the characteristic of our age—is to acquire the commodities we need, at the least possible cost to ourselves, without troubling ourselves very much as to the results on those producing them. The affluent have carried out this policy in their Clubs, Art Unions, and Joint Stock Companies; and it may be expected that the poor will follow in their wake.*

A. Z.—*It is illegal in a wholesale druggist to supply spirits of wine to his customers, and equally so in a retail druggist, except for medical purposes.*

A. H.—*Our Almanac was published in December, and as, from the very large sale we received for it, we were compelled to have it stereotyped, our supply is inexhaustible. Our Correspondent should order it through another bookseller.*

Mr. Sale.—*The Medical Charities' Bill has not passed through Parliament and there is an opinion abroad in well informed circles, that it is not very likely to pass this session. The inspectors would of course not be appointed till the act received the royal signature. We see that it is not to be considered till the 26th of April.*

A Visit to a Magnetic Patient.—*This narrative (from the "Glasgow Argus") has been sent to us. It wants all that such relations should never want—*names, places, times. *What nonsense to write about zeal for science and truth, and be ashamed to give one's name to statements which are utterly useless to either truth or science, without all the weight which the publication of responsible authority can give them?*

Diamond Cement.—*S. W. H. sends us the following recipe. It is proof, he says, against boiling water after being allowed to stand a week.*

℞ Gum Mastich ℥ij.
S. V. R. ℥iss.
Solve cum calore.
℞ Isinglass ℥ij.
Aq. bullient. ℥iss. misce omnia.

The article intended to be mended must be made warm when the cement is used, it needs to be placed in boiling water to dissolve.

G. H.—*The inhaling instrument enquired about is, we understand, one of the simplest construction. The smaller of the two unequal ends is the one placed in the mouth. Sir Charles Scudamore uses a similar instrument for his iodine inhalations. As the object, we presume, is only to get much air into the lungs, not much complication would seem necessary. We are not aware of any professed vendor.*

Mr. Richard King *has our thanks both for* performances *and* promises.

Mr. Cronin sends us a letter, intimating that if Mr. Thornton plagiarised Mr. Yearsley, Mr. Yearsley had first plagiarised Mr. Cronin. The three aurists are by the ears, and how the squabble will terminate, who shall predict? Mr. Cronin's charges it must be owned, are far more general than those made by Mr. Yearsley against Mr. Thornton. He confines himself to the endeavour of shewing that Mr. Yearsley's etiology and treatment are similar to those propounded by him in his book on ear diseases, (which reached two editions) published "as far back as 1838." But we must cease. The "Medical Times" has a higher office to serve than being a mere Aurist's Pillory.

L. S.—*It is confidently expected that Sir James Graham's Medical Bill will be brought in soon, but there is less certitude felt than at the beginning of the session that he will succeed this year in carrying it. There is no probability that it will contain an enactment allowing* surgeons *to dispense their own medicines. Our Correspondent's case is a hardship, but we must always have such till there be some uniformity established as to the course of proceedings which shall make (what we may call) a* full *medical man in every part of the empire.*

The Phrenological Society.—*We have been favoured with letters from Dr. Elliotson and Mr. Atkinson, which satisfy us that the notes furnished of the proceedings at the last meeting we noticed are not in many particulars perfectly accurate. In future our own reporter will attend the meetings.*

Mr. J. Jones.—"*The Philosophy of Health*" *is finished. Dr. Arnott's "Elements of Physic" remains, alas! still uncompleted. We regret, with our correspondent, that there are so many pledges remaining unfulfilled by* medical *authors who have undertaken the publication of large works in parts; but our censures, if we were to utter any, could not but be meek weak the delinquents are headed by an Arnott and a Copeland. Who would believe that either of these could be in wilful fault?*

A.—*The paper by Mr. Foote on the Improvements in Pharmacy is not an abstract, but was written expressly for the* "Medical Times."

C. H. *will find the rules required for the East Indian Medical Service laid down in our Student's number of October 1st, 1842.*

Fair Play.—*We should think £600 a fair premium under the circumstances.*

THE MEDICAL TIMES.

Saturday, March 18, 1843.

Primum nam inquiram quid sit furere hoc si erit in te
Solo, nil verbi, pereas quin fortiter, addam.

Though subscribing fully to the justice of the jury's verdict in the case of M'Naughten, we yet—strange as it may appear to the *Times*, and the many others who have been eagerly crying out for blood—believe in what has been called the sanguinary principle that punishments are justifiable only on the ground of *prevention*, and should rise or fall in amount according to the rule required by the good of society. While retributary punishment is no prerogative of ours, the absolute power of preventive punishment *is*. While the charter of our power over each other allows of not even a momentary increase of human misery, save with the clear purpose of humanity's greater amelioration, it allows us that in full plenitude. In punishment, the salus populi, the bonum publicum, is at once the *lex suprema* and the *lex unica*.

If it be said that—this principle admitted—we must discard the maxim which connects responsibility with mental sanity, we briefly answer, that punishments undeserved, or punishment out of all proportion with the offences, are as bad for society as they are unjust to the individual. They exasperate the circle or class in which the sufferer moves—shock the sense of equity—throw discredit on the law—and, rousing all men's sensibilities to revolt, are more apt to encourage men to wrong, than to wean them from it. The teachings of Justice, which is indeed but another name for the Common Sense of mankind, are thus in perfect harmony with the requisitions of society.

Now, the broad maxim we would lay down on a man's legal responsibility is, that it should hold in law, as it does in human equity, a precise proportion with the sanity of the mind on which it depends. We need not say, in discussing the nature of insanity, that it is no metaphysical malady. We know that the spiritual essence has a physical residence, and receives its knowledge, and exercises its behests, through physical agents. The mind may not be the brain, more than the instrument is the musician, or the type in which Milton's works are printed, are Milton's ethereal thoughts—but the mind is still wholly and entirely dependent on the brain. Derangement, disease, disorganization of the substance of the brain, are evils, then, that *necessitate* greater or less aberrations of mind.

The evil may be in various degrees of magnitude. The patient may be sensible of the aberrations. There will then be no lesion of that part of the brain on which the mind depends for forming a just estimate of the actions immediately under review. There may be no consciousness of the aberration—in which case, *cæteris paribus*, there is a larger extent of physical malady. There may be again, a limitation of the malady to that portion of the brain on which the mind is dependent in reference to its propensities; or to that other portion through which it perceives, compares, remembers, judges—or to *both*. If the disease extends to all, we have lunatics in the most desperate of stages: if to the former only, we have men in various stages of passionate irregularities, accordingly as their intellectual powers are strong or weak—or their past training has been good or bad. If the disease, instead of attacking the moral feelings, has triumphed over the part of the brain dedicated to intellectual labours, we have hallucinations, delusions, phantasies, varying with the especial seat of the malady, as well, probably, as with the past character and habits of the patient. Irresposibility, therefore, is rarely total. There are few even confirmed lunatics who, for a certain class of actions, are not as responsible as men in sanity. This man may, by one of those obliquities of mental action by which a *fragment* of memory or sensation is turned into a solid conviction, mistake his own identity, but his notions of *meum* and *tuum* are healthy as ever: nay, on every thing unconnected with—it may be—one point of memory, his judgment and feelings may be as sane as his soundest neighbour's. This suggests considerations as to the punishment of lunatics, which we cannot dwell on, but which our legislators might turn to account,—and, on the other hand, shews how foolish is the policy which, considering monomania as a pretty fiction of modern times, holds it not to be a true insanity, nor one which exempts the actor from responsibility on the special matters that come under its range. Monomania is far from an uncommon phase of insanity; and no reason can be mentioned why monomaniacs should be visited with punishment for the *direct* consequences of their mania, which would not equally apply to all other madmen for acts immediately the result of a wider lunacy. If reason, with the power over one's volitions, be admitted the source of all responsibility, by what sophistry shall it be argued that M'Naughten should have been punished for his recent act? We are told that *motive* and *intention* are the things that give an action its character,—and that the fixed design frustrated, and the fixed design carried out, only differ in there being a more consistent and persevering course of mischievous intention shewn in the one than in the other. If fixed intention, if mischievous design, then, be the test of guilt, where shall we look for either in M'Naughten? If any one believe that a fixed delusion, sincere, strong, invincible, held possession of his mind—and few surely can doubt that—what difference can he point out between M'Naughten's act, and an assassination committed in a dream? The design of either assassin would be equally under the control of reason.

It appears to us no proof of wisdom to assert, with Sir William Follett, and some other lawyers, that the incriminated act of a supposed monomaniac should not be narrowly scrutinized as evidence for or against the insanity of the accused. A single act may contain a mass of evidence proving madness, and there is no reason why the act first offering such proof should be the very one accused. If the act happen to offer evidence of long premeditation, cunning or unnecessary cruelty, the circumstances are duly enlarged on, as aggravating the crime. Is there any reason why circumstances proving a want of intention (and there must always be such a want, where there is no reasoning intellect) should not as fully be urged in palliation for the accused? We confess we can see none.

The *Times*, in rather an ingenious spirit, affirms that the mental delusions of M'Naughten offer no extenuation of his guilt. If the supposed injuries he complains of, were real, and he had avenged them in the way he is accused of—the law, it argues, would have held him guilty of murder; *a fortiori*, therefore, when the provocation was merely imaginary. Now, we have here a clear *petitio principii*. If M'Naughten be not mad, he certainly deserved to have suffered for his act as much (we will not say more) if his complaints were fictitious, as if they were real. But M'Naughten, we affirm, was mad; and the extraordinary delusion he laboured under, affords, with other evidence, proof of the assertion. But the argument carries on its face its own answer. In leaving it, we must content ourselves in expressing our admiration of the journal's powers, which can derive, from an agent's hallucinations, proof of *increased* responsibility.

We regret that the length of Mr. Guthrie's lecture will exclude for another week one or two articles we are engaged to give.

PENCILLINGS OF LIVING MEDICAL MEN.

SOUTH, SOLLY, M'MURDO, AND TRAVERS, JUN.

THE first in this list is one of the surgeons, and the other three are the assistant surgeons, of St. Thomas's Hospital.

John Flint South is a pale, thin, delicate man, about 40 years of age, with a very prominent long nose, long face, and a most methodistical mode of wearing his hair. His manner is unpresuming and retiring. He walks along with his long neck outstretched, his eyes fixed on the ground, and his head covered with an old fashioned hat, giving him a very strange and eccentric appearance. He looks like a great ungainly girl in male attire. He is the son of a respectable chemist, many years resident in the Borough; and is brother of Sir James South, Astronomer Royal, about whom there is so much diversity of opinion:—

"Some deem him wondrous wise,
"And some believe him mad."

He was elected on the council of the College of Surgeons, in 1841. He is a very studious, industrious man. He resided for some time in St. Helen's Place, in patient expectation of professional employment, to which his connection with the hospital, and his own acquirements gave him a natural claim. It has not, however, been realized. Possessing property, and suffering under occasionally severe indisposition, he avoids the bustle and inquietude of professional rivalry. He prefers the cool breezy shade of private life, as much we believe from inclination, as from an inherent, modest, reserve of disposition. He lives at Blackheath, and amuses himself in his Tusculan retreat, by scientific research. He is passionately fond of comparative anatomy, and has, and is printing several interesting articles in the Encyclopœdia Metropolitana, on the subject of sharks. With Mr. South, as with many others, failure is their own fault; it is a question of fear. They shrink from grappling with the realities of life. They want the persevering courage to drag on, amid difficulties and trials, or are deficient of that worldly tact, which is so practised at present. Mr. South was never under the influence of that stern stimulant, necessity, that incites so powerfully to exertion. I never fought a good battle, said a celebrated prize fighter, after I had a fifty pound note in my pocket. This feeling may explain the event of success of some very learned and scientific men. Commence your profession without a shilling, is a very inconvenient and disagreeable prescription. Yet to be poor to perfection, is oftener a surer road to fortune, than either wealth or connection. It holds good in law. Old Eldon once truly remarked, "all our Chancellors come from the garrets."

In 1831, Mr. South translated Dr. Otto's Compendium of Human and Comparative Pathological Anatomy, with notes and references. It is a simple and literal translation, and highly creditable to his research and industry. The introduction notices all the authors who have written on this subject, from Antonio Beneveni. The author considers all deviation from the healthy organic condition of animal bodies as either the disturbance of their normal nutritive activity, in quantity or quality (Liebig's present theory), or the mechanical separation of the natural connexion of their parts; whence, again, are necessarily produced changes of the nutritive activity. He considers the chemical peculiarities naturally to belong to Pathological Chemistry, on which account Pathological Anatomy excludes generally from its sphere the animal fluids, and only concerns itself incidentally with the more important fluids, in reference to their quantity, color, and consistence. The vices of animal organization are divided into congenital and acquired.

Second section, into vices relating to number, deficiency, and multiplication of parts; and the others, to those consecutive to the vices of size, &c.

He subsequently edited St. Thomas's Reports, in one volume, of which the following sensible observations occur:—"A detailed account of cases occurring in our Hospitals, to which several physicians and surgeons are attached, must be considered valuable, as affecting a comparison of different modes of practice, and their results." He adds

It is, therefore, matter of surprise, that no such cases have hitherto been published by any of the large Hospitals with which Medical Schools have been connected—but have been left to the periodicals, and by them selected more with reference to rarity than general utility, to the neglect of a legitimate and ample field for professional improvement."

The premises so judiciously advanced in these preliminary remarks were never carried out. The conception was better than the execution. The cases were selected "not wisely." There was no interest in them. They were too formally and circumstantially detailed. They were such simple and familiar cases that the reader felt it was a waste of paper and of observation to collect, and of time and attention to peruse. There were no scientific deductions to compensate for such simple and frivolous premises, and needless illustration. There were no statistical documents to give value and importance to its pages,—no grand generalization,—no novelty, nor improved modes of practice—no comprehensive views, to repay the purchase or the expectations: and the work went down the Acherontic stream, and is known only as a record of the failure, amid such ample materials, of a very hard-working, well-informed, and in every way respectable and intelligent young man.

In 1839, he brought before the Medico-Chirurgical Society a case of fracture of the coracoid process, with partial dislocation of humerus forwards, and fracture of the acromeon process of the clavicle.

He has published a third edition of his work on the Bones, in which he has introduced great improvements, and many valuable engravings. The students have affixed the name of Bony South to him, either from having written this work, or his illustrating the osseous system so perfectly in his own person. It is a didactic work, and facilitates and simplifies the study of this structure. It is not much sought after, nor read. Some say that the energy of his mind is not of the first order. But all admit that the compass of his knowledge is very extensive, and that his activity and perseverance deserve our respect. He is attentive to his Hospital duties, kind, affable, and instructive—slow, but sure, as an operator. In general politics he is of the Conservative tendency. Active, earnest, and enthusiastic, as a medical reformer—deeply penetrated with the conviction of the evils and abuses of the present system, and sincerely solicitous of their removal. In private life, pleasing and prepossessing; full of a dry quaint humour, and much estemed and highly valued by his associates. He has all the elements that compose a good consulting surgeon, and ought to be encouraged by the general practitioners.

Samuel Solly, F. R. S. Lecturer on Anatomy and Physiology, is a dapper little man, but of high fancy, as Sterne said of Hammond Shandy. Dark twinkling eyes, and visage chubby, with the rose of health crimsoning his cheek, in despite of the midnight oil, and toil, and study. His round pleasing face, the nattiness of his attire, the convolutions of his cravat, his profound acquaintance with the art of the toilet, manifest a very laudable desire to stand well in the eyes of the fair sex, as well as in science. He is about 40 years of age, but looks younger. He is a mixture of the sanguine and bilious temperament. His head is fairly divided. The animal propensities are not forgotten, over which the moral sentiments and the intellectual certainly predominate. The observing or perceptive organs are large. He is evidently of the impulsive class of medical men. In 1835, he published a letter in one of the periodicals, on the the advantages of drawing to the medical student. In 1836, he published his work on the Human Brain, its Structure, Configuration, Development, and Physiology, illustrated by references to the nervous system in the lower order of animals.

In his introduction he remarks very justly, that according to the plan generally pursued, in treating the anatomy of the brain, in systematic works of the present day, all the information conveyed amounts to little more than a vain catalogue of names applied to parts, without reference to their structure, their function, or even their analogies in the nervous system of the lower order of animals. Such a barren prospect as a list of names, holds out but little to attract the most zealous among students; while the dryness of unconnected detail, and the obstacles to clear conception engendered by the absence of every thing like arrangement, almost constantly deter him from attempting to learn more than is required to prepare him for examination for the diploma.

It is unfortunate that the old method of slicing should be followed, a method most unphilosophical in its conception, and totally inadequate to impart any real information in regard to the structure.

Reil, Gall, Vic d'Azyr, Serres, Cuvier, and others, by commencing with the dissection of the spinal chord, and tracing it upwards, were enabled o throw great light upon this interesting branch of physiology, and to prove that the chain is perfect, and that such differences as do occur, simply consist in the abstraction of parts, and the loss of those powers which have been proved to be dependent on them.

By pursuing this course, we shall be rewarded by finding that the enkephalon, this apparently most complicated organ in the human body, is but a gradual development from an extremely simple fundamental type on one uniform and harmonious plan,—that the seeming complexity of the cerebro-spinal axis in man really arises from the great concentration, as opposed to the extreme diffusion of its component parts in the lower order of animals: for in no particular are the higher orders more strikingly distinguished from the lower than in the concentration of functions within circumscribed spaces.

"Let honour be given where honour is due." He may be well proud of this production; it is equally excellent in conception and execution. The demonstrative principle is beautifully and philosophically exhibited in the progressive ascent of the series by the successive additions of new parts, and of increased and corresponding functions.

The language is simple, scientific, and perspicuous; his descriptions are lucid, accurate, finished, and complete. His reference to the opinions of Herschel shows that his mind is deeply imbued, and that he ambitioned not "unsuccessfully" to imitate the excellence and purity of the style in Herschel's noble work—his Discourse on the study of natural philosophy.

In 1839 he read a paper on a case of dry gangrene in a boy, before the Medico-Chirurgical Society.

In 1841 he was elected assistant-surgeon. The same year he wrote some remarks in the Gazette on the Pathology of the Nervous System, in which he tries to refute the opinion that disease of the cerebro-spinal axis is not discernible after death. He imputes it to the want of properly noticing the colour of the cineritious neurine; this he did not evidence as clearly as he might.

We once heard him deliver a lecture before the Royal Institution. He very respectably acquitted himself. His language apposite; his manner neat and appropriate; his drawings and diagrams good, and carefully executed; his reasoning succint and clear. He was not eloquent, but he was successful in communicating information, and in confirming the remark of Horace.—

> That if the mind with clear conceptions glow,
> The willing words in just expression flow.

He said he considered a nerve to be a chord proceeding from some sensitive or motive surface to a medullary centre, to which it conveyed impressions, which were converted into sensations, and whence was reconveyed the energy which produced voluntary and involuntary motions. In the human subject, the olfactory nerve, which ministers to a sense not highly developed in man, terminates in an oval or pyriform bulb of cineritious matter, which is joined by a long commissure to the cerebral mass. In other animals, as the horse, in which the sense of smell is much more acute, this thalamus grows to an extraordinary size, and in some animals it is altogether deficient. He proved in the most satisfactory manner, that in the most simple as well as in the most complicated system, two conditions of nervous matter alone existed, the fibrous and pulpy tissues. He made it popularly and scientifically interesting.

In 1842, he published a short article on some of the functions of the organs of the circulation, independent of nutrition, which went to establish that blood, independent of its vital properties, performed a most important part in the economy as a mere mechanical agent. He is a very intelligent hard-working young man. He will never, as a surgeon, rival his predecessors, Cheselden or Cline; but it is very likely that he will afford an additional instance that success is the result of unceasing and well directed exertion, and that the road to eminence, though steep and painful, is to be travelled over by perseverance and industry, and that the aphorism is equally true in medicine as in religion,—*no cross, no crown.*

He is very diligent in instructing all under his care, and very well qualified to give instruction. As a professor, he is proud without arrogance, and dignified without effort. His well managed familiarity and desire to be useful, make him respected and esteemed by his class.

McMurdo is the son of a rich wholesale chemist in the city. By interest, wealth, and apprenticeship—like Solly—he procured his appointment as assistant surgeon. He has a dull large Dutch countenance—such a face as you could easily cut in a Cheshire cheese, without animation or intelligence; but an astute cunning Scotch expression that it would be very difficult for the knife to impart. He wears a very spicy wig, with rich flowing and luxurious ringlets; his whiskers are cultivated with great care and tenderness, and spread far over his cheek. Time having rather prematurely given them a very venerable complexion, and "Wisdom's silver" being unacceptable to the other sex, his knowledge (not confined to surgery) has led him to have recourse to chemistry to dye them dark. By such ingenious devices he has contrived to elaborate a rather agreeable face. He has graduated in the school of Sir Pertinax Mac Sycophant, and pays the most oriental homage to his patron, Mr. Green, whose opinion is with him oracular and infallible. He goes round the wards frequently for him. The one goes round with the pupils as if they were performing a gallopade; the other is often tedious from the time consumed and the monotony of his observations. L'un va en tortue, l'autre court la poste, the latter dropping here and there a practical hint, a world of knowledge in a word—a pearl that the student values as it deserves. In Mr. M'Murdo's demeanour there is a good nature or kindliness of manner that makes itself felt by the bystander, if it were not spoiled by a hybrid mixture of pride, or pomp and politeness that it is difficult to describe or understand, and which makes you suspect its sincerity. He is affable to the students, and anxious to communicate instruction; or rather, to persuade them that he knows something. One moment he is labouring severely to perpetrate some witticism, and going to the verge of coarse familiarity in the endeavour. All of a sudden he stops, and addressing some pupil with an emphatic *sir*, that the others may not forget the vast disparity in their respective stations. Pope, in his prose, says, that true wit may be defined a justness of thought and a facility of expression, or, in the midwives' phrase, a quick conception with an easy delivery. Our pencilled friend, if he thinks of Pope, will save us the pangs, and himself the pains of his *witty perpetrations.* His genius is evidently too ponderous for a *joke.* Canning sarcastically called Hobhouse Lord Byron's man Friday; M'Murdo is in the same relation to Green. There are many envious of his situation, who assert that if a man be insinuating but worthless, stupid but sly, and have the malleability of a leaden mind to bow and cringe and be as ductile as his patrons please, and serve apprenticeship and pay the premium, there is no office, however important, that he may not reach. The metamorphosis of Mr. M'Murdo into an hospital surgeon would appear marvellous in any other part of the world; but where you have non-entities presidents, hypocrites, imbeciles, sy-

cophants, maw-worms, and renegades, councillors and examiners—while men of high order, of intellect, great acquirements and practical merits are excluded—the wonder ceases.

In other countries a man must obtain the confidence of the public before he can challenge the suffrage of the profession; he must secure eminence before he aspires to superiority. No man could be in his situation unless he had fought and conquered his way to high distinction by the exercise of great qualities, by patient study, and unwearied industry.

We have sought in vain in the medical, chirurgical, and philosophical transactions, in the periodicals, weekly, monthly, quarterly, and annual, for Mr. M'Murdo's opinions on scientific subjects. The only reference to his name is the notification of his appointment to St. Thomas's. In Paris, the publication of the candidates are put in as evidence and claim to professional capability. *N'importe.* Interest and money are the most potent and talismanic of agents in London. The lives or happiness of the poor—but we must stop—we must not be too severe, we find no fault with the individual, we war with the system.

Admonere volumus, non mordere—prodesse non lædere, consulere scientiæ non officere.

McMurdo thinks that there is no reputation to be gained from writing now-a-days, and we agree with him. The *cacoethes scribendi* is rife. The books that are published now-a-days are professional advertisements. You can have histories of expeditions, pleas of insanity, diseases of the skin, by paying for it, works without one original idea, manufactured and compiled by librarians and eminent surgeons, who never had any practice. The only trouble is to put their name upon the title-page They make their books upon the same plan the cuckoos build their nests. We have long elaborate essays upon complicated diseases, which the author never saw, and we have books which the author never read, translated out of a language which he does not understand. He purchases by the quantity, and some disagreeable critic informs that it is Mr. So and So's work, with Dr. So and So's name, prefixed to it. This is double felony, the author and the purchaser are robbed, and the reader imposed upon. We feel the subject ginning to expand. We shall shortly devote an article to it, and endeavour to pencil the master manufacturers, from Willis down to Winslow.

Mr. McMurdo, (why is it the Mr. seems misplaced to this name?) McMurdo then, like Chaucer's Monk, has three or four scraps of Latin in his mouth, with which he is trying to pass off as a scholar. Also a few pet phrases, such as "This is a most gratifying case, gentlemen, very. He came in in a very bad state. He is now better, much better, gentlemen:" to which we once heard the following rejoinder.

"The devil a bit, your honour, nor the first day I came in, nor ever will be as long as I stay here, and that's the God's truth now." He relates an anecdote of a brewer's drayman having acknowledged to drink daily sixteen gallons of porter. It is told to introduce *Credat Judæus Apella, non Ego.* In his treatment he is judicious and unexceptionable. He follows implicitly the directions of his seniors. He is bland and humane to the poor, courteous to his equals, and kind to the pupils. His treatment of the poor is the heroico-generous.

We heard him order to one patient six pints of porter, four glasses of wine, one of brandy; one pound of chops, two eggs, milk, and beef-tea, a day. The Poor Law Commissioners, and Dr. Truman, and those who have written on dietetics, would derive benefit from a visit to St. Thomas's. We must say, that this generous fare seems to have the best effects. He matriculated in Trinity College, and married a very elegant and accomplished Irish lady. He is the surgeon, or rather medical officer to Newgate, where he is much respected.

Benjamin Travers, jun., is a young, well-looking, flaxen-haired man, modest, and unassuming in his manner; the son of one of the most accomplished surgeons and original thinkers we have. We expect something from him. He published the history of a case of tracheotomy in 1840. He is biding his time, and we have reason to think he will not shame his sire. But our limits have been exhausted, and we are prevented doing justice to him. PROBE.

INGREDIENTS OF STAMPED AND PATENT MEDICINES.

(*According to Dr. Paris and other Authorities.*)

Chamomile Drops.—The nostrum sold under this name is a spirit flavoured with the essential oil of Chamomile. It cannot possess the bitter tonic of the flowers.

The *Everlasting Pill* of the ancients consisted of *metallic* Antimony, which being slightly soluble in the gastric juice, was supposed to exert the property of purging as often as it was swallowed. This was economy in right earnest, for a single pill would serve a whole family during their lives, and might be transmitted as an heir-loom to their posterity. We have heard, says Dr. Paris, of a lady, who having swallowed one of these pills, became seriously alarmed at its not passing; upon sending, however, for her physician, he consoled her with the assurance that it had already passed through a hundred patients with the best effect.

Permanent Ink for marking Linen.—This preparation is a solution of nitrate of silver, thickened with sap green, or cochineal. The preparing liquid, or pounce liquid, as it is technically called, with which the linen to be marked is previously wetted, is a solution of soda, boiled with gum or some animal mucilage. It is a curious circumstance, that if potass be used for this purpose, the marking ink will run.

Plunkett's Ointment consists of arsenious acid, sulphur, and the powdered flowers of the Ranunculus Flammula, and Cotula Fœtida, levigated and made into a paste with the white of an egg, and applied, on a piece of pig's bladder, to the surface of the cancer.

Pate Arsenicale.—This favourite remedy of the French surgeons consists of 70 parts of cinnabar, 22 of sanguis draconis, and 8 of arsenious acid, made into paste with saliva, at the time of applying it. This combination, observes a periodical writer, is similar, with the exception of the ashes of old shoes, to that recommended by Father Cosmo, under the name of "Pulvis Anti-carcinomatosa."

Davidson's Remedy for Cancer, arsenious acid, and powdered hemlock.

Singleton's Eye Salve, or Golden Ointment.—Under this name is sold a preparation which consists of sulphuret of arsenic (orpiment) with lard, or spermaceti ointment. The Unguentum Hydrargyri Nitrico Oxydi of the London College, is also sold under the same title. The latter, Dr. Paris, believes, is that which is more usually sold under the name of the Golden Ointment; Mr. Clarke has stated, in the *Glasgow Chronicle*, that it is composed of a drachm of red precipitate and seven drachms of butter.

Delcroix's Poudre Subtil, "for removing superfluous hair in less than ten minutes.—This fashionable depilatory appears, upon examination, to consist of Quick-lime and Sulphuret of Arsenic, with some vegetable powder. It is, however, so unequally mixed, that in submitting it to analysis, no two portions afforded the same results. The composition is incapable of fulfilling the intention for which it is so confidently vended.

Tolu Lozenges.—Sugar eight oz., Cream of Tartar one oz., Starch two drachms, Tinct. Toluiferæ Balsami E., one fluid drachm, mucilage of Gum Tragacanth q. s.

Fumigating Pastiles. Trochisci seu Candelæ fumales.—Benzoin generally forms the chief ingredient in these compositions, to which may be added any variety of odoriferous substances; the following formula may be offered as a specimen:—

℞ Benzoin ℥j.
Cascarillæ ʒss.
Myrrh ℈j.
Olei nuc. moschat. ol. Caryophyll. āā gtt.x.
Potassæ nitratis ʒss.
Carb. ligni ʒvj.
Mucilag. gum. Trag. q. s.

Virgin's Milk.—A spirituous solution of Benzoin mixed with about twenty parts of rose water, forms a cosmetic long known by this name. Under the same title also a very different preparation is sold, vid. Liquor Plumbi sub acetatis.

Friar's Balsam, Wade's Drops, Jesuits' Drops.—These preparations are nothing more than the Tinctura Benzoni composita.

Pectoral Balsam of Honey is merely the Tincture of Benzoin, or that of Tolu.

Essence of Coltsfoot.—This dangerous preparation consists of equal parts of the Balsam of Tolu, and the compound Tincture of Benzoin, to which is added double the quantity of rectified Spirit of Wine.

The *Specific of Herrenschwand*, which formerly excited so much interest in Germany, consisted of ten grains of Camboge with twenty of sub-Carbonate of Potass; although it is said, that on its being analyzed by order of Elizabeth of Russia, there were also found in it both Mercury and Arsenic.—Camboge is also the basis of the *Specific of Clossius.*

Golden Spirit of Scurvy Grass.—This is merely a solution of Camboge in the Spir. Armoraciæ comp.

Towers's Solution of Camphor.—Under this title, a strong aqueous solution of Camphor was sold in London, which was supposed to be indebted for its strength to the agency of carbonic acid.

An *Odontalgic Remedy*, in great repute, consists of a solution of camphor in oil of turpentine; a fluid ounce of which will dissolve two drachms.

Rymer's Cardiac Tincture..—It is an infusion of Capsicum, Camphor, Cardamom Seeds, Rhubarb, Aloes, and Castor in Proof Spirit, with a very small quantity of Sulphuric Acid.

Lardner's Prepared Charcoal consists of cretaceous powder, or chalk finely powdered, rendered grey by the addition of Charcoal, or Ivory Black.

Concentrated Solution of Charcoal.—A preparation is sold under this absurd name for cleaning the teeth, and is nothing more than a Tincture of Catechu. The name was probably suggested by the experiments of Mr. Hatchett, who succeeded in producing artificial tannin by the action of Nitric acid upon Charcoal.

Bateman's Pectoral Drops consist principally of the Tincture of Castor, with portions of camphor and opium, flavoured by anise seeds, and coloured by cochineal.

Kirkland's Neutral Cerate is formed by melting together ℥viij. of Lead Plaster with f℥iv. of olive oil, into which are to be stirred ℥iv. of prepared chalk; when the mixture is sufficiently cooled f℥iv. of acetic acid, and ʒiij. of pulverized Acetate of Lead are to be added, and the whole is to be stirred until nearly cold.

Marshall's Cerate.—℞ Palm. Oil ℥v., Calomel ℥i., Acetate of Lead ʒss. Nitrate of Mercury ℥ij.

Cold Cream (Ceratum Galeni.)—Ol. Amygdal. lbj., Ceræ alb. ℥iv.; melt, pour into a warm mortar, and add, gradually, Aq. Ros. oj. It should be very light and white.

Essential Salt of Bark.—The public should

know that the preparation sold under this empirical title, is merely an extract prepared by macerating the bruised substance of bark in cold water, and submitting the infusion to a very slow evaporation.

Eau Medicinale de Husson.—After various attempts to discover the active ingredient of this Parisian remedy, it is at length determined to be the colchicum autumnale, which several ancient authors, under the name of hermodactylus, have recommended in the cure of gout. The following is the receipt for preparing this medicine. Take two ounces of the root of colchicum, cut it into slices, macerate it in four fluid ounces of Spanish white wine, and filter. Some practitioners affirm that the French preparation is a vinous infusion of the *Flower* of the Colchicum.

Dr. Wilson's Tincture for the Gout.—This is merely an infusion of Colchicum, as Dr. Williams, of Ipswich, has satisfactorily shown. Since the discovery of colchicum being the active ingredient of the Eau Medicinale, numerous empirical remedies have started up, containing the principles of the plant in different forms.

Bates's Aqua Camphorata.—Sulphate of copper is the base of this preparation, which was strongly recommended by Mr. Ware. The following was his recipe:—R. Cupri Sulph. Boli Gallic, a. a. gr. xv. Camphor gr. iv. solve. in aq. fervent. f℥iv. diluеque cum aquæ frigidæ oiv ut fiat Collyrium.

Lisbon Diet Drink.—Decoctum Lusitanicum. —R. Sarsap. concis. Rad. Chinæ, aa. ℥j.—Nucum Jugland. Cortice Siccatarum, No. xx. Antimonii Sulphureti ℥ij. Lapidis Pumicis pulverisat.—Aquæ distillat. lib. x.—The powdered antimony and pumice stone are to be tied in separate pieces of rag, and boiled along with the other ingredients. The use of the pumice stone is merely mechanical, to divide the antimony.

Emplastrum Ammoniaci, L.—Ammoniacum, reduced to a suitable consistence by distilled vinegar. It adheres to the skin without irritating it, and without being attended with any unpleasant smell. There is a peculiar disease of the knee, to which servant maids, who scour floors upon their knees, are liable, and for which this plaster is a specific. It is particularly eligible in cases of delicate women with irritable skins. A person of the name of Sterry, in the Borough, prepares a plaster of this description, which is sought after with great avidity.

Vesicatory Silk has been prepared as a substitute for the common blistering plaster. The following is the formula of Cadet de Gassicourt; Tincture of Cantharides, q. s., evaporate, and when in a state of sufficient concentration, spread it hot upon strained silk; it will be necessary then to spread two or three layers one upon another.

Guisbert's Epispastic Silk.—Mezereon bark oz. 24, Water 1,500 parts; boil, strain, and add Pulverized Cantharides, Myrrh, Euphorbium aa 24 parts; boil, strain through a double linen cloth, and evaporate until the liquor is of sufficient density to allow it to be spread upon waxed silk.

Baynton's Adhesive Plaster. (Strapping.)—Differs only from this preparation in containing less resin, six drachms only being added to one pound of the litharge plaster. This excellent plaster is sold ready spread on calico.

EXTRACTS FROM FOREIGN JOURNALS.

Experimental Researches upon the Formation of Arterial and Venous Cicatrices.

M. Amussat gives the following as his conclusions on this subject:—

1st. The frequency of aneurisms after wounds of arteries in the human subject had banished all hope of obtaining arterial *cicatrices*, and it had become a principle that wounds of arteries could not be firmly cicatrised. 2nd. His experiments upon living animals and some facts observed in man, prove the possibility of obtaining durable arterial *cicatrices*. They fully confirm the views of J. L. Petit and the theory which he had deduced simply from facts observed in the human subject. 3rd. Arterial *cicatrices* are never formed by the immediate reunion of the lips of the wounded vessel; these are always accomplished by the interposition of a clot of fibrine which adheres to the edge of the opening, becomes hardened, is organised and takes all the characters of the parietes of the artery with which it is identified. 4th. The results of general practice, in wounds of arteries in man, prove that much has been left undone in the way of obtaining solid arterial *cicatrices*. 5th. In general, too much haste is made in obliterating the wounded vessel, doubtless because great fear is entertained of wounds of arteries with the foreknowledge of inevitable aneurism. 6th. To obtain solid and durable arterial *cicatrices*, we must endeavour to maintain the clot in position, lower the action of the heart and keep the part in the most perfect immobility, in a word act as in fractures of the bones, that is to say, fulfil all the conditions necessary for obtaining perfect consolidation.

On the subject of venous cicatrices, he sums up in the following terms:—

1st. The cicatrices of venous wounds are formed in the same way as those in arteries, that is to say by a clot of fibrine, which closes up the wound and eventually becomes organised and united around the orifice, so as to form a species of *ampulla*. 2nd. The venous *ampulla* which exists after a wound, is merely the united cicatrix distended by the feeble impulse of the venous blood. 3rd. This *ampulla* is not an hernia of the internal membrane, as is generally believed, or as the experiment of inflating a vein would lead one to think. 4th. His experiments as well as observation on the human subject prove that venous *cicatrices* may take place in man, as well as in animals. 5th. The consequence to be derived from this fact, is the necessity of sustaining perfect compression for two or three days or even longer after the wound of a vein.

Dr. STEVEN'S THEORY OF VITALITY.

(To the Editor of the "Medical Times.")

Sir,—In a number of your periodical for Oct. 1st, 1842, there is an article giving an account of a new theory of the cause of vital phenomena (supposed to be by Dr. Stevens) in which it appears to me that the conclusions arrived at are not such as are necessarily deduced from the experiments made. Dr. Stevens has found that, after removing the brain and spinal cord from a living animal, respiration, circulation, assimilation, &c., still continue for a short time to proceed as before, and hence concludes that the brain and spinal cord are not the continents of the principles of vital action, and fixes on the solar ganglion as the seat of life, and further decides that mind or mental power has no effect, or very little in sustaining vitality, and that something else has, which he calls the VITAL AGENT OR LIFE. Now, I would ask, what difference does it make whether we say, at once, that an animal lives by means we do not comprehend, or say, with the appearance of great knowledge, that a VITAL AGENT produces vitality—that LIFE causes life. Are we after this lucid explanation, any more in the light than before? Do we know any better how animals live? I trow not. Dr. Stevens takes an animal, deprives it of its brain and spinal cord, and it lives afterwards, at the utmost seven hours. This proves that life does not merely consist in respiration, circulation, assimilation, secretion, absorption, &c., for these continue after the removal of the brain, and yet the animal dies; the creature not only requires to digest food, breathe, &c., but requires to obtain and masticate at first.

The experiments in my mind seem to shew that the brain is *most* necessary to life, and the short *apparently* vital existence, after its removal, may be most truly compared to the stoppage of a steam engine by extinguishing the fire, or letting off the steam, without injuring any of the machinery; the motive power is lost, but the machine still proceeds on its course stopping by almost imperceptible degrees, but by breaking any of the cranks, pistons, wheels, or other apparatus more immediately connected with the motion, the stoppage is more instantaneous, yet every one allows the fire or steam at least to be the real motive power. So with an animal, vital action does not cease so immediately on the removal of the brain, as on the removal of the heart, lungs, &c., which are, nevertheless, not the principal agents in vitality. But this illustration may be carried further. The experimenter says, mind is not the origin of life. No doubt he will say, that the motion of a steam engine is independent of mental power—but what would it be without mind? Should we have any steam engines at all, are they not outbirths of the inventive powers of the mind of man? And are not the improvements in them consequent on superior mental powers? Is not the mind of man continually aiding them in their course and keeping them under controul? Take for a time the direction of mind away and collisions, explosions, and death will follow. Just so with animals and all nature, they are outbirths of the mind of the Creator, who is continually acting, in creating, protecting, and guiding them, and as he has given to man a capability of improvement, and faculties approaching *nearer* to the divinity, so he leaves him, *in a measure*, to his own guidance, and gives him a species of controul over inferior nature; but as instinctive creatures, possess no mental faculty of their own, they are immediately under the guidance of their Creator, who directs them in the way suited to their state and character, and each in his peculiar kind is perfect; his instinct, i.e., the direction of the Allwise leading him to do that only for which his conformation suits him, and the opinion of an old writer is much to the point, where he says "*Deus est anima brutorum.*" Another point, Dr. Stevens touches on, is Somnambulism, and he says, that in this state the *mind is asleep*, the body and the *vital agent* active. The fact, I think, will be found to be that the *body* is asleep, and the mind fully *awake*. Thus a person asleep, gets up, dresses himself, and goes to write, and though a board be placed between his eyes and hand, he still writes as correctly as before. Does not this shew that the eye of the body transmits no impression to the mind, being asleep, but that the mind in its intense activity actually raises the dormant body, and causes it to perform its functions almost as if awake. I was told a day or two since of a person in the habit of sleep-walking; my informant who saw him in this state, knelt before him, and the somnambulist fell over his prostrate body and awoke. Here had there been no fresh object in the way, the sleeper would have continued his course, having in his mind the impression of the positions of the articles in the room, but

this fresh obstacle was not made known to his mind by the sleeping outward senses, and consequently not avoided, the sudden jerk roused him and the objects were distinctly perceived. Their not recollecting, on awaking, the circumstances occurring when asleep, arises from the fact, that the remembrance of actions is caused by the impressions made on the mind through the senses, which cannot be the case when the senses sleep; the ideas directing the somnambulist being those formed whilst awake.

A SUBSCRIBER.

Bath, March 1, 1843.

MAXIMS IN MIDWIFERY.

By Edward Elton, M R C S.

OF THE PELVIS, ITS ARTICULATIONS AND THEIR DISEASES.

I.

The bones of the adult pelvis are four in number—the two ossa innominata, the sacrum, and the os coccygis. The latter of these presents the greatest interest to the obstetrician, from its cartilaginous and osseous portions possessing a minor degree of flexibility when pressed upon by the passage of the fœtal head.

II.

The ligaments of the pelvis are the obturator and sacro-ischiatic, but they are of little importance in connection with active parturition. The obturator ligament has an aperture transmitting the vein, artery, and nerve of that name—the latter is sometimes injured and compressed during the passage of the fœtal head through the pelvis. Preternatural rigidity of these structures is an occasional cause of lingering and retarded labour.

III.

Anchylosis of the sacro-coccygeal articulation is a very rare affection, but rigidity of this structure, in women who marry late in life, may occur, offering a considerable impediment to the expulsion of the head, by contracting the pelvic outlet, and forming another cause of lingering labour. Sitting, sedentary persons as milliners are very liable to this affection. Disruption of this joint, from forcible and violent pressure of the vertex is spoken of by Denman; inflammation may occur from similar causes, and suppuration of these parts sometimes happens in scrofulous subjects.

IV.

The articulation of the symphysis pubis is liable to inflammation, and quickly becomes the "subject of suppurative action, attended with high constitutional excitement and no small danger." This affection is of a very distressing character, and very difficult of cure, commonly confining the patient to the bed or the sofa for many months. It is to be treated in the most active anti-phlogistic manner, especially if it occur (which it is very apt to do) in scrofulous women, with blue eyes, fair complexion, flaxen hair, and attenuated skin. Leeches, blisters, issues, and setons, may be employed according to the active or chronic character of the disease. Avoid debility, and subdue the complaint as quickly as possible, is a maxim of mighty truth in every department of obstetric medicine.

V.

Relaxation of the symphysis pubis may occur independent of pregnancy, but it most frequently happens in connection with it. A painful state of uneasiness, which gradually increases until every position becomes one of great suffering, invariably developes itself during the progress and presence of this affection in the absence of parturition. But when that period supervenes, the woman will tell you that "her bones are in motion." Dr. Blundell states that he has "heard them move;" and that, upon making an ordinary examination, "the motion may be distinctly felt." After parturition, the joint recovers its lost powers in many cases, but its abnormal relaxation may "recur in an increased degree, with each succeeding gestation." In treating this peculiar and painful affection, the constitutional remedies indicated are, bitters, tonics, and alteratives,—whilst the local ones consist in plunging the hips into very cold water (a plan first recommended by Denman), a well-contrived, unyielding bandage, to bring the relaxed parts into closer contact, and keeping the extremities of the bones bearing upon each other, by a slight though firm pressure, whilst the patient should be kept at perfect rest, in the recumbent position.

VI.

The sacro-iliac synchondrosis is equally liable, with the symphysis pubis, to relaxation of its cartilaginous and ligamentous textures. Great pain in the back, and total incapacity of standing without firm, external support, are the symptoms mentioned by Sir C. Clarke, which "will enable you with facility to detect the disease in most instances." Blundell quizzically recommends medical men to remember that *women* are liable to this affection. Time has been known to cure this species of relaxation, but a strong, broad, bandage-belt would undoubtedly be of more service in this case, than in the one alluded to in the last maxim, from the affected articulation affording a broader surface for pressure.

OF THE PELVIS CONSIDERED OBSTETRICALLY.

VII

The standard pelvis of a woman has been divided into the true and false pelvis; and the former of these has been sub-divided into its superior part, or "brim," its inferior part, or "outlet,"—whilst the intervening space has received the name of the "cavity of the pelvis." The brim, whose osseous portion is chiefly formed by the ilium, is elliptical in shape, its regular oval being broken by the promontory of the sacrum—its average width between the sacrum and pubis is four inches—its average dimension, from side to side, is five inches—its oblique dimension, which stretches between the acetabulum on one side, and the sacro-iliac synchondrosis on the other, is $5\frac{1}{4}$ inches; these are nice points, but of great importance to remember. The "outlet," into which the ischium and pubis both enter, is more square than the brim, and its relative diametrical dimensions, as above described average four inches in either direction. But the diameter of this inferior portion may be elongated about one inch by the flexibility of the os coccygis, alluded to in my first maxim. It must be borne in mind, therefore, that, whereas at the "brim" the long measure is from side to side, and the short measure from before backwards—at the "outlet" the very reverse of this is the fact, the greatest dimensions there being from before backward, whilst the lesser one is from side to side.

VIII.

The cavity of the pelvis is of various depths,—in front it may be shallow, behind it may be deeper. This fact should be borne in mind in making an examination. "The greatest depth is from the sacral promontory to the tip of the coccyx, and should be from five inches and a half to six inches; at the side, from the lowest point of the tuber ischii to the brim, three inches and a half; and behind the symphysis pubis, one and a half."* Of the arch of the pubis it may be observed, that it is at the point of this arch that you will always find the orifice of the female urethra in the absence of active parturition. You will find this arch to vary very much, being of a wider space in some women than in others;—so important is this, that it may be truly observed that the wider the pubic arch, the wiser will be the child. It is of the greatest importance that every student should be correctly acquainted with the normal incurvature of the pelvis. Let him always, therefore, remember that the axis, or central line of the "brim," is downward and backward, whilst that of the "outlet" is downward and forward;—how very important and how very easy it is to recollect these "small matters," on which the lives of hundreds placed in our hands may depend.

IX.

It would be a most fortunate thing if every child-bearing woman possessed a standard pelvis of the size and diameter already alluded to—but, alas! this is not always the case. The pelvic shape and cavity may be distorted from their normal shape, and contracted in volume and capacity, by the presence of rachitis in youth, or malacosteon in adult age, in each of which the osseous system is found to be defective in solidity and strength, from the earthy matter entering into its formation being deficient in quantity, and the animal matter being in excess. This deformity may be partial, when either the brim, the cavity, or the outlet alone, are affected—or it may be general, when all these parts partake, more or less, of the deformity. "If the vicious formation be confined to the brim, the diminution in size is almost always produced by the promontory of the sacrum jutting too far forwards, and by this means contracting the conjugate diameter; if to the cavity, by the sacrum being too straight, so that the bone does not possess its due curvature; if to the outlet, by the tuberosities of the ischia approaching too near each other, or by the spinous processes of the same bones being too long, and directed too much inwards; or, again, by the joints of the coccyx having become anchylosed, and thus lost their mobility. Of these irregularities—the most frequent is that met with at the brim—the most rare, an undue straightness of the sacrum."*

X.

This contraction of the pelvis may be elliptical at the brim when the sacral promontory approaches to the symphysis pubis, and the diameter from before backwards becomes diminished, whilst that from side to side is increased; or it may occur at the outlet, when the symphysis pubis may approximate to the lower portion of the sacrum and coccyx, rendering the passage of the fœtal head utterly impracticable. But this distortion may be angular at the brim by the sacral promontory and acetabula being pressed in upon the axis of the pelvis—or at the outlet by the approach of the tuberosities of the ischia and the incurvature of the sacrum and coccyx.

XI.

The elliptical distortion is generally supposed to be caused by rachitis, whilst the angular has been considered to arise most frequently from malacosteon.

XII.

In delivering women who unfortunately labour under pelvic deformity, it may be laid down—1. That a living child may be brought into the world through a pelvis which has a clear available space of three inches in the conjugate by four in the lateral diameter.—2. That unless there be a space at the brim of

* Ramsbotham's Obstetric Medicine and Surgery.

* Ramsbotham's Obstetric Medicine and Surgery.

one inch and three-eighths in the conjugate by three and a half at the iliac, or one inch and a half in the conjugate by three in the iliac, it would be useless to attempt delivery by the natural passages, but it is very rare to find the lateral diameter at the brim less than three inches.

XIII.

The obstetric treatment of a woman in labour, who has a contracted pelvis, is one at which the stoutest heart may well stand appalled. In such cases, Nature has fearfully departed from her course of wise and adaptive conformation, and art and science must step in to save the life of the sufferer. If there exist not an adequate extent of space as before alluded to, embryotomy must be had recourse to, or the more dangerous performance of the Cæsarean section—an operation whose very contemplation is dreadful, and which (with three exceptions only) has hitherto proved fatal to the mother in this country.

XIV.

The following maxim may be relied upon as correctly diagnosticating such fearful cases.—"Whatever may be the deformity of the spine, if the legs are straight, the pelvis will be found well-shaped, but if the legs are crooked the pelvis is deformed. If women walk with their toes much turned out, they have a narrow pelvis, the acetabula being nearer to each other than in a well-formed pelvis and the symphysis pubis being very sharp; such women suffer much in labour."*

GENTILITY-MONGERING.

(*From Blackwood's Magazine for March.*)

There is another class of gentility-mongers more to be pitied than the last; those, namely, who are endeavouring to "make a connection," as the phrase is, by which they may gain advancement in their professions, and are continually on the look-out for introductions to persons of quality, their hangers-on and dependents. There is too much of this sort of thing among medical men in London, the family nature of whose profession renders connection, private partiality, and personal favour, more essential to them than to others. The lawyer, for example, need not be a gentility-monger, he has only to get round attorneys, for the opportunity to show what he can do: when he can do this, in which a little toadying, "*on the sly*," is necessary—all the rest is easy. The court and the public are his judges; his powers are at once appreciable; his talent can be calculated, like the money in his pocket; he can now go on straight forward, without valuing the individual preference or aversion of any body. But a profession where men make way through the whisperings of women, and an inexhaustible variety of *sotto voce* contrivances, must needs have a tendency to create a subserviency of spirit and of manner, which naturally directs itself into gentility-mongering: where realities, such as medical experience, reading, and skill, are remotely, or not at all, appreciable, we must take up with appearances; and of all appearances, the appearance of proximity to people of fashion is the most taking and seductive to people *not* of fashion. It is for this reason that a rising physician, if he happen to have a lord upon his sick or visiting list, never has done telling his plebeian patients the particulars of his noble case, which they swallow like almond milk, finding it an excellent *placebo*. As it is the interest of a gentility-monger, and his constant practice, to be attached to a fashionable physician, in order that he may be enabled continually to talk of what Sir Henry thinks of this, and how Sir Henry objects to that, and the opinion of Sir Henry upon t'other, so it is the business of the struggling doctor to be a gentility-monger, with the better chance of becoming one day or the other a fashionable physician. Acting on this principle, the poor man must necessarily have a house in a professional neighbourhood fashionable or exclusive; he must hire a carriage by the mouth, and be for ever stepping in and out of it, at his own door, keeping it purposely bespattered with mud to show the extent of his visiting acquaintance: he must give dinners to people "who may be useful," and be continually on the look-out for those lucky accidents which have made the fortunes, and, as a matter of course, the merit, of so many professional men.—He becomes a Fellow of the Royal Society, which gives him the chance of conversing with a lord, and the right of entering a lord's (the president's) house, which is turned into a sandwich-shop four times a-year for his reception; this, being the nearest approach he makes to acquaintance with great personages, he values with the importance it deserves.—His servants, with famine legibly written on their brows, are assiduous and civil; his wife, though half-starved, is very genteel, and at her dinner parties burns candle-ends from the palace.—If you pay her a morning visit, you will have some such conversation as follows.—"Pray Mr.——, is there any news to-day?"—"Great distress, I understand throughout the country.' "Indeed—the old story, shocking—very.—Pray have you heard the delightful news? The Princess-Royal has actually cut a tooth!"—"Indeed?"—"Yes I can assure you; and the sweet little royal love of a martyr has born it like a hero."—"Positively?"—"Positively, I assure you; Doctor Tryiton has just returned from a consultation with his friend Sir Henry, upon a particularly difficult case—Lord Scruffskin—case of elephantiasis I think they call it, and tells me that Sir Henry has arrived express from Windsor with the news."—"Indeed!"—"Do you think, Mr. ——, there will be a general illumination?"—"Really, madam I cannot say."—"There ought to be [with emphasis.] You must know, Mr. —— Dr. Tryiton has forwarded to a high quarter a beautifully bound copy of his work on ulcerated sore throat: he says there is a great analogy between ulcers of the throat and den—den—den—something, I don't know what—teething, in short. If nothing comes of it, Dr. Tryiton, thank Heaven, can do without it; but you know Mr——, it may, on a future occasion, be *useful to our family*."

* Dr. Macintosh's unpublished lectures in Midwifery quoted in Blundell's Principles and Practice of Obstetric Midwifery.

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SUMMARY.

ON THE LAWS OF THE DEVELOPMENT OF ORGANS; OR TRANSCENDENTAL ANATOMY APPLIED TO PHYSIOLOGY.

By E. R. A. SERRES, Member of the Institute, of the Academy of Medicine, Professor to the Museum of Natural History, Paris, &c., &c., &c.

Summary.—*Various determinations given to the middle region of the brain, (Gall, Cuvier, Tiedemann, Treviranus, &c.)—Application of the principle of connexions as well as of the facts elicited by organogeny, in the determination of the elements of the brain in the four classes of vertebrata, and of the os quadratum of birds—Aid given by this principle to oology—Determination of the umbilical vesicle (Sœmmering, Wrisberg), and of the allantoid (M. Dutrochet), by the principle of connexions.*

We have stated in our preceding remarks that the chain of analogies, as exhibited in man and the mammifera was broken in birds. How was it that this interruption took place? Evidently, in consequence of the new forms presented by the middle region of their brain. To reduce these forms to those of the mammifera which serve as the type, the method so successfully adopted by Geoffroy Saint Hilaire presented itself; namely—to seek in the brain of the fœtus of the mammifera an organ corresponding in form to that of the middle portion of the brain in birds; such appeared to me at first the most likely means of reaching the solution of this problem. In execution, however, I was arrested by a difficulty which, for some time, seemed insurmountable. The human embryo at no period of its existence reproduces in the brain a form at all resembling that of the middle region of this organ in full-grown birds. This form is entirely peculiar and characteristic of this latter class. Discouraged by failure, I was about to renounce my efforts, when the idea occurred to me of comparing together the embryos of the two classes. In fact, if we consider on the one hand that this middle region is one of the most complex and most perfectly organized parts of the brain in birds; and, on the other hand, if we regard the atrophy of these parts (or of those which, according to Gall and Cuvier, we may consider as their *analogues*) in the mammifera and man, we shall find that there could be but little comparison between the two. For though the *tubercula quadrigemina* in the embryos of the mammifera are constituted by two vesicular lobes as those of birds, their situation and structure are so different, that the dissimilitudes greatly surpass the analogies; in the embryos of the mammifera, the lobes form a very marked projection upon the upper surface of the brain, and are, in fact, its most prominent part; in birds they are invisible upon this surface, and in their place we find a quadrilateral layer. In the full-grown bird, these lobes are contracted upon the sides, and form, at the base of the brain, the projection, which, in the mammifera, is found at the opposite surface. We see, then, that the two terms of comparison were formed from the opposite surfaces of the brain in the two classes.—Lastly, the embryonic lobes of the mammifera are in contact; those of birds, on the contrary, are greatly distant one from another, though united together by the commissura magna, formed by alternate striæ of white and grey matter.

If, in spite of such dissimilitudes, some anatomists (as Gall, Cuvier, Tiedemann), have drawn together parts so different, the heterogeneous characters which they presented gave rise to doubts, and so led to new theories. Thus, after the work of M. Tiedemann, M. Treviranus revived the views of Haller and Malacarne, which he modified in a very ingenious manner, thinking to have discovered the tubercula quadrigemina of this class in a small swelling situated over the sides of the aqueduct of Sylvius, and upon the transverse layer which serves as a covering to this aqueduct. If M. Tiedeman could cite in favour of his opinion the cavity of the lobes in the human embryo and the opening between this cavity and the aqueduct of Sylvius, M. Treviranus could allege in favour of his views the fixed position of the parts which he compares in the two classes.—Moreover, he found in the adult mammifera solid tubercles, like those of birds. His hypothesis was the more attractive, inasmuch as he had not only discovered the four tubercles of the mammifera, but also found in the middle lobes of birds the analogues of the corpora geniculata of the upper class. M. Rolando again regards the middle part of the brain in birds as corresponding to the optic thalami of the mammifera; while M. de Blainville, in a work published in 1821, assimilates this region to the cerebral hemispheres of the upper class.

We thus perceive that in this short space of time, four distinct theories were advanced on this subject:—1st. That of Gall, Cuvier, Arsaki, and Tiedemann, who assimilated this part to the tubercula quadrigemina.—2. That of M. Treviranus, who thought to have discovered in it the four tubercles, as also the corpora geniculata.—3. That of M. Rolando, who compared it, as Willis and Vicq-d'Azyr had done, to the optic thalamus.—and 4. That of M. de Blainville, who considered it as analogous to the cerebral hemispheres. If anything positive could be deduced from these different opinions, it evidently was that this middle region of the brain in birds was not accurately determined; and this common accord of anatomists, in directing their whole efforts towards this region, attested that all were of opinion that here lay the source of their incertitude upon this part of comparative anatomy, and that here also we ought to seek the key which might dissipate those doubts. Now, whenever a difficulty of this nature presents itself in the sciences, we should, according to the precept of Bacon, erase from our minds all that has been said or done upon the subject, and then proceed in our researches upon new facts and new observations. We shall then find, as this illustrious philosopher has said, that facts speak more strongly than words.

In fact, it required, in this state of anatomy, a determination which, effacing all the dissimilitudes of which we have spoken, and restoring the middle lobes of the brain in birds to that position from which they have been displaced, should assign to them the same limits which they occupy in man, the mammifera, reptiles, and fishes; a determination which, to this unity of position, should join unity of form, of structure, and which, to complete the application of all the rigorous laws of anatomy, should likewise join to them unity of relation or connexion. Then should we be enabled to tell not only what functions this part possesses, but likewise what it does not possess. Now, such a result we can hope to obtain only by the pursuit of comparative embryogeny.

A. *Unity of Position.*—I will preface my remarks by saying, that I have assigned the common name of *optic lobes* to this part, in all classes, by reason of its constant connexion with the optic nerve. On tracing the formation of these lobes, we find them situated upon the superior surface of the brain in the bird on the third, fourth, fifth, sixth, seventh, and eighth days of incubation. They then make upon this surface the same projection as the lobes of the tubercula quadrigemina in the human embryo at the second month; in the sheep and calf, at the fifth and sixth week; in the tadpole, or young frog, from the tenth to the twelfth day of formation; and in fishes, throughout all the conditions of their permanent organisation.

B. *Unity of form and of structure.*—At the above period of incubation in birds, the optic lobes are of an oval figure, somewhat depressed inwards, similar to the tubercula quadrigemina in the human embryo as well as in that of the calf, of the sheep, of the fish, &c. Their interior is hollow, and filled by a liquid in all classes. In all, the walls are formed of a thin layer, at first separated from its fellow, but soon afterwards becoming intimately united.

C. *Unity of connexion.*—These lobes in all classes cover over the aqueduct of Sylvius. In birds, as in all other classes, we constantly find at the posterior part of these lobes, the insertion of the fourth pair of nerves; in front and below, that of the optic nerves; in front and above, the pineal gland and its peduncli; while anteriorly, their cavity opens into the third ventricle, and posteriorly into the fourth. If we could, at will, arrest the forms of the brain in all classes at this period, we should see how simple would be the comparative anatomy of this part—or rather, we should find nothing but a system of analogies throughout organised beings. But if, quitting embryonic life, we suddenly come to the perfect animal, a very different picture presents itself to our notice. A total change takes place in the optic lobes of birds; the insect is not more different from its larva, the butterfly from its chrysalis, the frog from its tadpole, than the optic lobe of the adult bird is from the same organ in the embryonic bird. A complete metamorphosis takes place, in which every thing becomes changed, excepting the connexion. In fact, in the semi-circle, accomplished by each optic lobe in its rotation around the cerebral peduncle, the fourth pair of nerves, the optic nerve, the pineal gland and its peduncli, remain invariably in the same place, evidences, as it were, of their primitive analogy in birds, as well as of their permanent analogy in reptiles and fishes.

Now, this middle region of the brain being known and determined in all classes, the knowledge of all the other parts is necessarily derived from it; this is, as we have already said, the key to this so varied organ in the series of the vertebrata. Thus, behind the optic lobes, we find the cerebellum: an organ impossible to be mistaken, whether it be reduced to its smallest dimensions, as in reptiles, or carried to its maximum of development, as in the mammifera and man; or, lastly, whether we find it in its fixed forms, as in birds, or in the variable forms which it presents in fishes. So also with the cerebral lobes which, though not less variable in their forms than the cerebellum, cannot for an instant be mistaken in any class. Again, the pair of lobes placed on the fore-part of the cerebral hemispheres always represent the olfactory lobes, whether they equal in size the cerebral lobes, as in certain fishes, or are almost totally absent, as in nearly all birds and some mammifera; whether finally they are placed upon the same line as the cerebral lobes, whether they are concealed at their lower part, or project far beyond them, as in many reptiles. Such are some of the numerous diversities brought to a state of unity. No one, then, at the present day can doubt that the brain of vertebrated animals may be brought to an uniform structure, and that the laws of its variations may be determined.

The rigorous determination of the organic elements is, then, the basis of comparative anatomy, and organogeny one of the most positive means of arriving at this result. This determination becomes especially difficult in the apparatus of the life of relation, when, in their dismemberment, the parts composing them change in design or use, and become differently associated to produce new functions. Function then ceasing to direct the anatomist, it became indispensable to have recourse to other characters drawn from the organs themselves while undergoing these transformations. Among these anatomical characters, that of connexions deserves especial attention. We have just seen its application in the determination of the elements of the brain; and another instance will be found when studying the bony apparatus placed upon the sides and base of the cranium, and which are so diversified in the series of animals.

What combinations must have been attempted before discovering that the little bones of the ear are transformed, in fishes, into bony processes, assisting to form the respiratory apparatus! What concord in the results brought about by anatomy and by pathology to show us that the facial nerve is a nerve of respiration! It seemed a still more difficult matter to explain the os quadratum in birds: it was necessary, in fact, first to discover the parts which enter into its composition, and to deduce the individuality of these parts from the same necessity of use which they have in the mammifera and man. The frame of the tympanum forms a ring at the entrance of the external auditory canal. Now, the whole ring is formed of two pieces at least, as we have already said. Such I have always found to be the case in the young embryos of the mammifera and man. These two small bones, which have been named by Geoffroy Saint-Hilaire, the tympanal and the serrial, are always distinct in early age. Now, to this bony process we afterwards find added a third, applied against the base of the petrous portion of the temporal bone, and of which the object, in man, is to complete the carotid canal: this is the cotyleal of M. Geoffroy. By its body, this bone partitions off the entrance of the carotid into the the cranium, and, by its extremity, it aids in forming the cavity designed for the articulation of the inferior maxillary bone. The internal carotid being carried in man to its highest point of development, the body of the cotyleal is enlarged in the same proportion, its articular extremity, being, at the same time, atrophied. But in proportion as we descend from man, the internal carotid being diminished in size, the carotid canal itself is lessened, and consequently the body of the cotyleal is more and more reduced; but what the body of the bone loses in volume is gained by its extremity, which, embracing the base of the tympanal and the serrial, forms in the genus felis, the external auditory concha, named the caisse, or drum, by M. Cuvier. This drum is thus composed of the tympanal, the serrial and the cotyleal bones; on a level with them we find the stylhial, devoted to the functions of the hyoid bone. Now, in birds, the stylhial becoming united with the other three bones, a moveable bone having four surfaces is formed: this is the os quadratum, a kind of regulator to the movements of the maxillæ in this class. It thus results from the variations of functions in these different bones, that the only character to which they are subjected, is that that of connexion; and this connexion may be also remarked in reptiles, and especially in fishes, in which classes these parts remain entirely separated in the young embryo.

The principle of connexions is, in animal organogeny, a guide equally sure and fertile in its results as that of insertions in vegetable organogeny. The one corresponds to the other, and both are in a particular manner applicable to phytogeny and zoogeny, especially the latter, by explaining the earlier developments; for the organisms being primitively isolated, we may conceive that their association must take place in a fixed and predetermined order, so as to accomplish their formations. Now, the connexions are the bonds by which these necessary relations are established, and these bonds frequently become the distinctive signs of the organisms, and the bases of the comparisons which are drawn between the different classes of animals. So far we are guided by zootomy, without the aid of comparative anatomy.—This latter science can, in fact, only commence when the determination of analogous organisms has been already accomplished in the animal series.

Ovology was very early cultivated. Hippocrates, Aristotle, Galen, &c. studied with zeal the adventitious coverings of the embryo; Malpighi, Graaf, Needham, and their contemporaries pursued his branch with equal perseverance. Ovology advanced under their guidance, but not comparative ovology: comparative ovology is principally of recent date, and its rapid progress, together with its great certitude, have fully demonstrated the power of the principle of determinations, of which this science is but an application. We know that the ovology of birds serves as the term of relation to comparative ovology; we know also the important part which the vitellus plays in this class, both by reason of its size and of its connection with the intestine, by the vitello-intestinal pedicle. This organism, carried in them to its maximum of development, entirely eluded the notice of observers in man, on account of its extreme minuteness. Albinus originally perceived an isolated vesicle in the fœtal membranes. Sœmmering, who also observed it, was the first to indicate its relations with the intestines; and Wrisberg described in the young embryo the vitello-intestinal pedicle, so as to leave no doubt of its analogy with the vitellus of birds. It is by this determination, established at the two extreme points of its existence, that science has been guided, and hence the progress made in the study and comparison of this organ throughout the animal kingdom. The determination of the allantoid was, however, a more difficult matter. In birds this membrane had been mistaken, by reason of the differences, irreconcileable in appearance, which separate it from that of the ruminantia, in which class, like the vitellus in birds, it is carried to its maximum of size. Now, what is the connexion of this organism in the ruminantia? It is a double bladder, constricted in the middle. One of these bladders occupies the pelvis of the embryo; the other is lodged in its membranes. The constriction is formed by a hollow pedicle uniting them together. Now, this is exactly a repetition of the connections of the umbilical vesicle with the intestine. It was this connection which M. Dutrochet took as his basis when he named this membrane the ovo-urinary bladder; and this denomination, recalling its principal anatomical attribute, has become the guide which has directed anatomists in this formerly so confused, but now so accurate, part of comparative ovology. This result has been brought about by a rigorous mode of determination alone. So also was it upon the connexions of the ovum with the membrana decidua that Hunter based his description of this membrane.

These results, however remarkable, are, perhaps, less striking than those which have recently established the comparative anatomy of the proliferous vesicle. The anatomists of the 17th century were perfectly aware of the existence of vesicles in the ovary of the mammifera as well as in that of the human race. Unfortunately these vesicles were compared to the ovum of birds, and this error of determination destroyed the application of this discovery for more than an age. Graaf, however, who first pointed out the ovarian follicles, stated that they became ova only in the uterus; but his explanations on this subject were extremely confused. Haller and his school imagined the Graafian vesicles to be filled with a fluid which, at the moment of impregnation, escaped into the Fallopian tubes. Hayston endeavoured to prove this position, while Cruiskamp on the other hand, laboured to refute it by numerous and precise experiments. Still, after volumes written on this subject, the question was abandoned by reason of the failure of the modes of determination then adopted, to bring the facts which it embraced within the domain of comparative anatomy. But on reconsidering these facts, according to their true *signification*, as so happily expounded by the German anatomists, we shall see exhibited an exact knowledge of the Graafian vesicle, as well as of the ovule enclosed in its interior, the discovery of the proliferous vesicle, and its conversion into the blastodermic membrane, as the effect of impregnation. Comparative anatomy will thus succeed to zootomy; for these parts once accurately determined in a class, their application will immediately take place in all others. Placed by this order of researches at the commencement of animality, we shall pass without interruption or gap from the vertebrata to the invertebrata, and appreciate with their just value the modifications which all these parts undergo in the different scales of the animal series. To ovology will succeed comparative ovology, and this, in its turn, becoming confounded with ovogeny, is a new proof that comparative anatomy and organogeny are often one and the same thing. Such is precisely the case, and this affords an explanation of the rapid progress of ovogeny. Facts were not wanting to the anatomists of the seventeenth and eighteenth centuries to enable them to found comparative ovogeny. Why, then, was it not founded? Evidently because there was a something wanting to these facts to enable them to be compared one with another, and thus to exhibit the bonds which ought to unite them together. However numerous they might have been, their affinity was not perceived, because they remained undetermined. This determination has more recently been accomplished by means of a precise principle, and comparative ovology, as well as ovogeny, have progressed rapidly towards their degree of perfection.

We shall shortly see, that the same kind of indetermination has also arrested the progress of general embryogeny. The same cause holds, as it were, apart the organisms of invertebrated animals. Their zootomy so advanced, so rich in some particulars, is almost barren in what regards comparative anatomy. The one half of the animal kingdom is foreign to the other. Let us then attempt to draw them together by fixing the determination of that among the organic systems which, in the branch of the invertebrata, rules and governs all others—the nervous system; while, at the same time, we endeavour to render intelligible those anomalies which this branch presents when compared with that of the vertebrata.

SHORT APHORISMS ON THE TREATMENT OF UTERINE HÆMORRHAGE.

By CHARLES CLAY, Member of the Royal College of Physicians, London, &c. &c., Lecturer on Medical Jurisprudence, Manchester.

In the following brief observations it is my wish to give (intended chiefly for junior practitioners) an Epitome of the nature and treatment of Uterine Hæmorrhage, founded on practical experience. There is no point of obstetric duty that calls for greater display of energy and presence of mind, and none more trying, under many circumstances, than this; and it is so frequently occurring in every practice, that it soon convinces a tyro in the profession of its great importance, and that he should be well prepared with the general views entertained on such an important question, in order that he may meet the most extreme case on any emergency, with that judgment and determination which often ensure success, and increase the confidence of those placed under his management. The subject of uterine hæmorrhage has been much better understood of late years than formerly, and there are many excellent writers who have taken up this subject alone, extensively, and with that judgment its importance demands; many of them, however, are too lengthy for practical purposes, or to be easily borne in mind by the junior part of the profession, who must depend (for a time, in a great measure) on the experience of others. Such is the epitome of general practice I propose to give, shewing every feature under which such occurrences may exist, and in so concise a manner as to be brought almost within the immediate glance of those for whom these observations are intended.

The term, *Uterine Hæmorrhage*, is applied strictly to a flow of blood, per vaginam, from the inner surface of the uterus (with the exception of what is termed internal hæmorrhage, where the blood, instead of passing out of the vagina, collects

within the uterine cavity), attended by particular symptoms and appearances, which may be considered as either accidental or unavoidable.

General Causes of Uterine Hæmorrhage.—One of the principal causes of hæmorrhage, *before childbirth*, is the separation of the ovum from the internal surface of the uterus, wholly, or in part. *After childbirth*, the cause rests on the partial or entire absence of contractile force, in the uterus itself. The placenta, receiving its supply of blood directly from the internal surface of the uterus (to which it is adherent for that purpose), it follows, as a matter of course, if the whole, or any part of it, should be prematurely separated from its attachments, hæmorrhage must unavoidably occur, because the uterine cavity is not in a condition to obliterate the mouths of the vessels by contraction; in consequence of which, the blood flows into the cavity, distends it, excites uterine pain, dilates less or more the os uteri, and finally escapes from the vagina. Premature separations of the placenta may generally be traced to falls, blows, passions, fits, violent muscular exertions, &c. After delivery, the principal cause is, a want of power to contract in the uterus itself; thus, the mouths of the blood vessels, which contraction would otherwise obliterate, remain undimished in size; hæmorrhage is therefore the consequence, whenever any interruption arises to this beautiful provision of nature.

Character of Hæmorrhage.—Hæmorrhage varies in its character. Sometimes of very trifling extent; at others, in quantity almost incredible: sometimes of a thin consistence, filtering away almost insensibly, whilst, at others, in large, coagulated masses, the vessels rapidly emptying themselves, producing syncope, which sometimes gives a slight check to flooding, but is immediately resumed when the patient recovers. The quantity of blood lost is often surprising, without any serious injury to the female. I have had many cases which recovered without one bad symptom, after the loss of a fearful discharge of blood, and such cases have often impressed my mind with the fact, that pregnant females will bear far more extensive depletion than at any other time of life. That more blood in proportion exists in the pregnant female, there can be little doubt, and less on the supposition that more is required before childbirth for fœtal circulation, and after childbirth for the secretion of milk—borne out by the fact of severe cases of floodings being much longer before the secretion of milk appears, and in some very extreme cases it does not appear at all.

Progress of Hæmorrhage.—If the hæmorrhage be slight, and has not continued long, the prognosis may be favorable, but if it dribbles constantly away, and has continued long, the prognosis must be a guarded one. Indeed, in all cases of hæmorrhage, it is well to be very guarded at least, in prognosticating too positively, for many cases have sunk after the most effectual assistance, and when the discharge has been but trifling, and many others have got well, after a loss that, at the moment, appeared next to impossible. The time it has continued is of great importance to be considered. If the flooding is rapid, and large in quantity, the worst is to be feared, and prepared for. The external appearance of the female assists much in forming prognostics. I have known little, delicate, thin women, bear large depletion by hæmorrhage, much better than the more robust and plethoric, and it is such that are generally more liable to it. I have also observed that hæmorrhage occurs more frequently in the middle and higher classes than in the lower orders of society.

Symptoms of the Milder Species of Hæmorrhage.—These are better understood when seen than described; pallid countenance, languor, nausea, small quick pulse, profuse perspiration, chilliness, syncope, with more or less discharge of blood.

Of the Severe Species.—The symptoms are syncope, alternating with rapid and extensive floodings, often in large coagulated masses. Sometimes, continued syncope, languor, vomiting, dim eyes, rapid small pulse, cramps, cold clammy sweats, convulsive motion of the depressor anguli oris, tinnitus aurium, &c. &c.

Cause of Hæmorrhage during the First Stage of Labour.—As already stated, this is owing to an entire or partial separation of the placenta from the inner uterine surface. One of the worst species of hæmorrhage is that arising from *the misplacement of the placental mass*; its usual attachment is to the sides, or fundus, but occasionally it is found adherent over the os uteri. In this case it is not necessary to produce hæmorrhage, *that either a partial or entire separation from the uterine surface should take place.* It is caused by uterine action (prematurely or otherwise) dilating the os uteri, (which, however slight) tears the vessels of the placental mass asunder, producing a fresh gush of blood at every pain. It would perhaps be more strictly correct to distinguish these cases from the rest by the term *placental hæmorrhage*; as uterine hæmorrhage can only be properly applied *to those cases where the hæmorrhage is directly from the vessels on the inner surface of the uterus.* During the first stage *of first labours* there is a discharge of blood, often to a considerable extent, but which is not to be taken for uterine hæmorrhage (as I have known two instances where young men of little experience did so consider it), as it is quite independent of hæmorrhage, and unaccompanied with any of its symptoms. This is often the case with females who commence having children much later in life than usual.

What is to be done on Hæmorrhage occurring during the First Stage of Labour.—The first step is to ascertain the cause, and this can only be effected by an examination per vaginam; and having once introduced the hand for that purpose, it should never be withdrawn until the case is perfectly understood. The placenta will be found attached either over the os uteri, or higher within the uterus; if the former, the hæmorrhage will be placental, from the torn vessels by the dilating of the os uteri by uterine action; this case is easily detected by the soft cushion presented at the uterine orifice to the touch of the finger, and the peculiar gushes of blood at every pain, with the inability to define the presenting portion of the child beyond the cushion. But if the hæmorrhage proceeds from a partial, or complete, premature separation of the placenta from the sides, or fundus of the uterus, these characteristics are absent (with the exception of the flow of blood), and the examination (per vaginam) presents no unnatural deviations to the touch, but from the existence of hæmorrhage the conclusion to be drawn is, that the placenta is situated in the higher portions of the walls, or fundus of the uterus, and wholly, or in part separated from its inner surface.

Treatment of Hæmorrhage when the Placenta is in the higher portions of the Uterus.—This is either palliative or radical. *The Palliative* consists in the admission of a free circulation of air, cold drinks, light clothing, quiet, anodyne draughts, &c. &c., provided sufficient caution is exercised, that the palliative treatment does not occupy too much time, and the patient's chance of life be thereby sacrificed.

Radical Treatment.—Should the palliative means fail in controlling the symptoms, the patient still progressing for the worse, the flooding considerable, treatment of a more determined character must be substituted. The greatest error is likely to arise from carrying the palliative means too far. The radical treatment consists, 1st, in not losing sight of a continuance of the palliative means as to outward circumstances. 2ndly, Dilating the os uteri. 3rdly, Friction over the uterine region, and 4thly, rupturing the membranes and completing the delivery as expeditiously as possible. *With respect to the first position*, in addition to the palliative means already given, cold applications to the uterine region should invariably be applied, to induce uterine contraction, together with horizontal position, or rather the head low, and the hips raised; acidulated drinks are recommended by some, they are not, however, of much service, and only tend to disorder the stomach.

Bleeding has been frequently resorted to; for my own part I never practised it, and should not certainly advise others to do what I consider unsupported by proof as to its efficacy; enough of blood is generally already lost per vaginam, indeed too the lancet cannot be reprobated in terms too strongly in such cases.

Second Position, Dilatation of the Os Uteri.—When this step becomes necessary, it should be effected carefully, gradually, but constantly, and not at intervals as practised by some, under the idea of resting the patient; the object in view when deemed justifiable must be accomplished, and provided no undue severity be used. I cannot do better than recommend steady perseverance until the full amount of dilatation required is produced.

Third Position, Friction over the Uterine Region.—This species of manipulation tends to suppress the hæmorrhage, and assists materially in exciting uterine action, by which the dilatation of the os uteri is more easily accomplished. Simple, however, as this means may appear, the manner of applying friction properly is but little understood. It is not by the friction of the hand upon the parietes abdominis, but by grasping the integuments with the hand and rubbing them upon the uterine tumour beneath.

Fourth Position, Rupture of the Membranes and Completion of the Delivery.—However objectionable this may at first appear, there is no doubt but it is the most valuable and certain means at command for the suppression of hæmorrhage from the uterus. One of the principal arguments against rupturing the membranes is, the difficulty of turning the child. I admit it adds to the difficulties in cases where there is no hæmorrhage, and turning is necessary, or where there is unusual delay in turning after the membranes are ruptured. But where hæmorrhage has previously existed, the same relaxation is present as is produced by venesection in cases of rigidity of the os uteri, in tedious labour. Thus rupturing the membranes in a case of hæmorrhage, is not only proper, but in such cases there are less difficulties to encounter than is generally supposed, in the attempts to turn the child, from the relaxed state of the parts concerned. After rupturing the membranes, no time should be lost in introducing the hand steadily, and the child be delivered as speedily as can be effected, as well as the placenta. When the uterus is clear of its contents it ought to contract and the hæmorrhage ought to cease. The practitioner would ill discharge his duty if (in extracting the placenta he found the uterus not disposed to contract) he withdrew his hand until convinced the uterus had contracted. It is often necessary for the accoucheur to employ his other hand in friction over the uterine region, by which, as well as with the hand introduced, he may judge when the uterus is contracted sufficiently *to be left safely*. A broad bandage should now be applied, the pressure of which should be particularly over the uterus, and if not sufficient without, a thick pad of linen (one or two napkins doubled into four) must be placed over the uterine region under the bandages.

(To be continued.)

Placental Souffle.—There are some cases where this sound is indistinct, or where it cannot be heard at all, though the patient be placed upon her back, with the knees drawn up, nothing covering the abdomen but the shift, no noise in the apartment to interfere with the auscultation, and the instrument be employed in the most proper manner. In some cases the uterine sound could not be heard, when the fœtus could be felt distinctly kicking against the end of the stethoscope. It is necessary, also, to be aware that this sound may be heard in the abdomen of some women who have ovarian cysts and tumours of the uterus, and who are not pregnant. Dr. Montgomery relates a case of large fibrous tumour of the uterus, in which this sound was distinctly heard; and another in which the spleen was supposed to be enlarged, and in which this sound was audible. Dr. Hope has recorded cases of ovarian cysts in which the placental souffle was clearly heard, in the second edition of his work on the diseases of

COURSE OF LECTURES ON THE THEORY AND PRACTICE OF MEDICINE.

By C. J. B. WILLIAMS, M.D., F.R.S., Professor of the Practice of Medicine, and of Clinical Medicine, at University College.

GENTLEMEN—We now proceed to the subject of the physical signs of the diseases of the chest and the respiratory organs, and the way in which these become indications of the condition of the organs of respiration. I have given a general outline of the mode of this investigation, and I have now to give by way of comparison, a very short view of the general symptoms, with reference to the relations of direct physical causes to the vital functions. Some of these vital functions we have considered in detail under the head of general pathology. What we are now going to consider belongs to the special pathology of diseases of the organs of respiration.

The first and most important disease connected with the respiratory function is that called dyspnœa, or difficult breathing. It is here applied particularly to obvious difficulty in the performance of the function of breathing felt by the patient, or else obvious in the effects of disease in imperfect respiration on the system generally. As for instance, the patient has a feeling of dyspnœa, or oppression, or some other disturbance in the system in reference to the chest; or else it may not manifest itself in that way, but, in some instances, the disorder is shewn in some other functions of the body: sometimes in a lividity of the face, and a general distension of the veins, or sometimes in a general disorder of the cerebral functions, through which functions the proper act of respiration is interfered with. You have here a table constructed so as to give you some idea of the uncertainty of these symptoms:—

PROXIMATE CAUSES OF DYSPNŒA, OR DIFFICULT BREATHING.

1.—BY IMPEDING THE ACCESS OF PURE AIR TO THE LUNGS.

(a) *Mechanical.*
Rigidity of parts of the respiratory machine . . . Rickets distortion; Ossification of the cartilages; [illegible] of the pleura.
Pressure of ditto . . . Tumour, or dropsy of the abdomen.
Obstruction of the air tubes . . . Effusion in, swelling of, tumour, pressing on, the air tubes; spasm of the glottis, [illegible] the trachea.
Compression of the lungs . . . Effusions, or tumours in the pleural sac: Pleurisy, Hydrothorax, Pneumothorax, Aneurism, &c.
Alterations of the tissues of the lungs . . . Engorgement; Effusion: Œdema, Hepatization, Tubercles, &c.; Altered texture: Emphysema, Dilated bronchi, Vomicæ, &c.

(b) *Mechanical.*
Deficiency of oxygen in the air . . . Mephitic gases [illegible].

(c) *Vital.*
Paralysed parts moved in respiration . . . Pleurisy, pleuritic [illegible].
Paralysis of muscles of ditto . . . [illegible] the [illegible]; Paralysis of the bronchial [illegible]; [illegible].
Weakness of ditto . . . [illegible] fever, &c.
Spasm of ditto . . . [illegible] spasmodic asthma, &c.

2.—BY [illegible] OF BLOOD.

(a) *Mechanical.*
Obstruction to the passage of the blood . . . [illegible].

(b) [illegible]
[illegible] . . . [illegible].
Deficiency of red particles . . . Anæmia.

3.—BY THE VARIOUS RELATIONS OF [illegible].
[illegible] . . . Hysteria, [illegible] fever, [illegible]; Coma, [illegible].
Defective [illegible] . . . [illegible].

You see from this diagram what a vast number of different diseases, not only of the lungs themselves, but of other parts of the body, may result from the disorder of dyspnœa. You see that dyspnœa is thus very indefinite in its indications; that it may arise, not only from all those causes affecting the respiratory apparatus, in all sorts of diseases of the lungs—not only internal diseases of the lungs, —for weakness, for instance, will produce it, by affecting the motions of the chest, or paralysis of the muscles, or spasm from nervous causes. You see it may not only arise from causes affecting specially the organs of respiration, but also from circumstances affecting the circulation, by which a feeling of dyspnœa may be produced without any disorder of the function of respiration, such as an obstruction in the passage of the blood. So likewise we find—and it is a curious fact—that it will sometimes arise from certain conditions of the blood. The feeling of dyspnœa in its most distinctive form is dependent on the condition of the blood, or the blood being in a state not sufficiently purified by the air; and sometimes, it appears, that this condition of the blood may take place totally independent of any disease of the organs of respiration. For example, there may be such a thing as an excessively venous state of the blood. It is this which is exhibited where the blood is circulated with greater force from the heart under the influence of violent exertion. There is here a hurried and disturbed respiration without any disorder of the respiratory organs. The too great liquidity, and a deficiency of the red particles in chlorosis, will produce dyspnœa. Then, again, nervous respiration will be another mode of announcing the existence of dyspnœa; accordingly in hysterical affections, more particularly, people will feel a want of breath more than usually; so that if there is any want of breath, if the quantity of air supplied is not sufficient, then the action of the respiratory organs will be affected, so that the patient is nearly suffocated. This arises from intense sensibility of the nerves of respiration, and there is apparent disorder of the breathing and a feeling of dyspnœa. Sometimes under the influence of this disorder the breath becomes oppressed, and there is a heaving and very slow action without the patient feeling it at all. This is perceived in fevers and affections of the brain, and in nervous symptoms generally. Sometimes chemical causes have the effect in persons of contracted breadth of chest, of causing destruction of the respiratory function altogether, by a deficiency of oxygen. This arises sometimes from heated rooms, and may be more generally the case than we have been in the habit of considering. The breathing is diminished as a natural consequence of the deficiency of oxygen.

Now, although dyspnœa may be so very varied as a symptom, it is by no means a representative of the seriousness of diseases of the chest, as even it may be present when there is no disease of the chest; yet, if it is present, in connection with other signs, it is an important indication, and very often it is a measure of the inroad of disease on other organs. The real value, therefore, of a knowledge of the existence of dyspnœa is this, that having made out by physical signs what disease there is occupying the respiratory organs, the dyspnœa becomes a sign of the amount of disease, or of its increase or diminution. Dyspnœa alone, without a diagnosis of the nature of the disease, is very deficient. It may tell us very much with regard to the other symptoms.

The most intense dyspnœa is that induced by sudden causes, such as spasmodic action, or a swelling of the glottis, or sudden effusion in the bronchial tubes. Under these circumstances a convulsive kind of breathing takes place,—the feeling is overwhelming, and there is an expression in the countenance of great anxiety, almost amounting to despair: whilst the patient is struggling for breath, the eyes become protruded, the nostrils distended, and the posture constrained, as if every muscle and every limb of the body were placed in the best possible attitude for taking in breath, to supply the want of the respiratory organs. Under these circumstances, it is remarkable how the pulse will vary: sometimes it beats very hard and strong, and at other times very weak and irregular, varying with the amount of extra blood, but not at any interval of time. The organs of respiration will be seen working in an irregular manner, and also disturbing the circulation,—not only indirectly, by altering the quality of the blood, and by not altering and arterializing it in the proper way—but likewise mechanically, in the obstruction to the passage of the blood through the lungs. Then another thing important to be noticed is, that the muscles of respiration themselves, when violently exercised, tend to disturb the heart's action in a great degree; and sometimes there will be a strong palpitation, and at other times a weak one. This is the case when dyspnœa proceeds, as it very frequently does, from milder causes. Now, on the other hand, where the dyspnœa is more gradual, the feeling of want of breath is much more acute. The sensibility is, under some circumstances, gradually blunted by the circulation of imperfectly arterialized blood. This I shall have to notice under the head of Asphyxia. Under these circumstances, the dyspnœa is no measure of the amount to which the breathing may be disordered; so, a fatal and insidious disease may go on to destroy the organs of respiration, and cause death, without the patient feeling to a great extent the symptoms of dyspnœa. Even in a degree short of this, a permanent affection, such as that arising from emphysema of the lungs, habituates the system to the imperfect oxidation of the blood. Many persons, with this imperfect action of the lungs, are scarcely conscious of it. Their breathing is always laboured; and if the blood were transferred to any other person, it would be sufficient to induce suffocation; but being habituated to it, they do not feel it. In these cases, persons have a large flow of blood sent over their countenances, which would indicate the approach of death in other persons. The veins, too, are distended in a similar way, particularly those about the neck, and before their entrance into the thorax; and this arises from other causes, not only from the difficulty in the passage of the blood *through* the lungs, but also the difficulty in the passage of the blood *into* the chest. Thus, you have difficulty of breathing, particularly when the expiration is prolonged, as it is in Emphysema. The pressure on the lungs is greater here than it is under other circumstances, and the return of the blood to the chest is impeded; hence you see persons suffering under a great degree of emphysema, with the veins of the neck greatly distended. In fact we see, in this very condition, an illustration of what takes place in dying animals. There is an enlargement of the veins, which admits the accumulation of venous blood during the suspension of the respiratory [illegible]. This is one reason why some animals can remain so long without air. Persons labouring under this disorder may actually be said to be lowered in the scale of creation, like cold-blooded animals; living in a state of degradation, which would have been fatal if it had come on suddenly.

With regard to the treatment of the symptoms of dyspnœa, it is impossible to assimilate practical matters with each step of our pathology, and you can easily understand that it is not easy to prescribe for dyspnœa occurring as a symptom in the various conditions in which it is seen in the diagram I have given. The great object is, when dyspnœa is present, to find out the cause, and prescribe for it in a great degree; but where we cannot readily remove the cause, as in a case of obstruction of the air tubes by a tumour pressing on them, the object is to remove the symptoms for the time. Now, we cannot supply the deficiency of blood, but we may diminish the want of breath, or the want of supply of oxygen or air to the blood. This want of breath is proportioned to the want of oxygen in the system: oxygen is more required where there is more exercise [illegible]. Oxygen is always wanted to keep up the heat of the system, consequently, if a person takes cold, he will feel the want of oxygen still more; this becomes a certain indication,—when a person is struggling for want of breath, and has not the means of supplying it, to keep the surface of the body as warm as possible. Then there are the functions of nutrition and assimilation, and the conversion of the food into nourishing [illegible]. These, we know, depend on the activity of the respiratory process, and these processes cannot go on effectually unless the respiration is complete. We may lower it in some degree—may paralyse it—by the influence of narcotics chiefly. [illegible] will, in some degree, remove the feeling of dyspnœa, and it is quite obvious, that in all cases in which these remedies have this effect, they have it not merely by relaxing the spasm, or diminishing the sensibility, but that they, in some degree, lower the system, producing a state in which the respiration is not required to be so active. Accordingly, if we find these symptoms of difficult breathing quite permanent and not to be removed, sometimes narcotics, such as [illegible] ether, and belladonna, will be applied with advantage. Again, the question arises, is it possible to supply the defective respiration by other [illegible]

nasmuch as very little air is taken into the lungs, wing to the cause of dyspnœa, is it possible to ender this air more pure? I think it not improbable that some means will be found out by and bye, , which this difficulty in breathing will be much decreased; some such means as Dr. Payerne makes use f in the diving bell. At any rate there is one mode which the quantity of oxygen may be increased, nd that is by taking care that the air that is sent the lungs may be as cool as possible. Patients ften call out for cold air, and for the windows to e opened, and the relief given in this way is very ecided; under dyspnœa, you will perceive, it beomes a great object to have the air as cold as posible, because it contains more oxygen and less rbonic acid than warm air does. As to the posbility of supplying oxygen in any way after the ngs have abstracted all that they can, this is a uestion which experience hardly enables us to nswer. It has been recommended to apply oxyenated water, but I think that though this may, some stages of dyspnœa, be productive of some lief, the amount of oxygen conveyed in that way very trifling. It is still quite open to experience, d it is a question whether, by such a method, lorate of potash and other matters, held in sotion, may not be smuggled in. I must advert to e fact, that besides oxygenating the blood, there a simultaneous process required, that of decaronising the blood. It is highly probable that the ver assists in this decarbonising process, and sists in drawing off the carbon from the body; d I have seen, in some cases of dyspnœa, very eat relief derived from a great and sudden disarge of bile, and this, sometimes, under the inence of mercury, which may act in some degree purifying the blood. A feeling of want of eath has been adduced as a test of the want of tivity in the lungs, and it has been said to be proced by a want of power in the chest and the orns of respiration. This may be ascertained by termining how long a person, after taking a full eath, can go without taking another breath; this most effectually done by counting, one, two, ree, and so on, and in a healthy person it may carried on for three quarters of a minute, and a diseased person, not for more than twenty seнds. This depends upon the amount of inspiraon that can be taken by the actual capacity of the spiratory organs.

The next symptom to be adverted to is cough, hich becomes an indication of disease of the spiratory organs only so far as it is connected th the healthy or unhealthy condition of those gans. It may sometimes arise independently of y disease of the respiratory organs. Cough nsists of one or more abrupt and forcible exrations, accompanied by a contraction of the ottis, the trachea, and other tubes. In fact, ugh is intended to effect the process of expectoion, and the discharge of foreign matters acmulated in the air tubes. The proximate cause cough, that which causes the movements of the ugh, is irritation of parts of the air tubes, re particularly the glottis and the trachea. The ttis is the chief seat of sensibility, and it is the itation of that which causes cough. It may be d to be dependent on sensibility, and it must be erred to a class of reflex functions depending on tation, of which the mind is not always conus. A cough may arise from irritation of, or pression on, the incident nerves, without the sitive nerves being conscious of being affected it. Many experiments have been tried to shew t the glottis is the chief seat of irritation proing cough. Scratching the trachea has not n sufficient to produce cough, but immediately glottis was touched a cough ensued. Somees a violent cough will be produced by inflamion of the air tubes, and foreign bodies moving ut from one part to a more sensitive part, cause tation, and a fit of coughing comes on from that se. The same thing takes place in phthysis. It ell known that lying in a particular position cause a sense of tickling, so that the patient not lie in that position without a fit of coughing ing on. It is obvious that the sputa rolling one part to another will fall on a sensitive , so as to excite an act of coughing. The same g takes place in the early stages of bronchitis. Cough is excited in the natural mode by an irritant, causing increased sensibility, particularly in the upper parts of the air tubes. Sometimes the cough arises from an irritation more distant, such as inflammation of the diaphragm on the upper surface. If you ask a patient what is the cause of the cough, he will point to the trachea as the seat of the irritation; but it is reflected from the diaphragm, which is the seat of the irritation, to the spinal marrow: the action is altogether a reflex one. Diseases and foreign matters in the stomach sometimes cause cough.

Now cough, though often connected with diseases of the respiratory organs, sometimes may be produced by diseases of other organs, and are referable to the excito-motor function connected with those organs. But, in spite of all this, it is very important to study cough as a symptom, not only as helping us in some degree to discover the nature of the disease, but because it is an exceedingly troublesome symptom, and one that requires to be relieved in many cases before we can find out what the disease is; and when the disease is found out we sometimes cannot remove it. For this reason it is useful to discover some of the varieties of cough, and to study them. We may analyse a cough, just to understand what the nature of a cough is, although we cannot follow that analysis in the treatment. It arises often from a person swallowing something irritating which goes the wrong way. If it is a weak substance the irritation is slight, but if it is something stronger the irritation is greater. Again, it may vary according to the sensibility of the feeling of irritation. By the term sensibility I wish to include also that function which is impressed sometimes without any feeling—the function of the incident nerves transmitted to the spinal marrow. This reflex action varies in different individuals. It may vary according to the irritability of the muscles excited, and according to the violence of the motions of respiration. You remember that there are two sets of muscles concerned in the act of coughing; not only the external muscles of respiration, but also the muscles of the glottis and the air tubes, the closure of which is necessary to the performance of the act. When the glottis is not closed, and the act of coughing is violent, there is a tendency to vomit instead of to cough; the pressure in that case goes on to the stomach. Cough also depends on the state of the bronchial membrane and its secretion. The most common coughs we have are the hacking coughs, which are slight coughs, in which the different causes we have been mentioning are concerned. In the early stage of bronchitis it is very slight; when the bronchitis goes on, the cough is increased, for in that case the irritation becomes constant from the presence of tubercles in the upper part of the lung, causing an increased sensibility, and the cough is then brought on by exertion, or by heat, which sometimes increases the vascularity of the vessels, and the nervous properties of the parts. Even odours sometimes excite cough. This hacking cough, without any other serious causes than those I have described, is chiefly to be treated by mild diaphoretics. Excessive irritability and mobility of the muscles concerned in coughing may be stated to be another cause of cough varying according to the irritability of the muscles excited. Now this gives rise to what is called convulsive cough, where the muscles of respiration are easily thrown into very violent action. This kind of cough is associated with nervous temperaments, or occurs in persons who exhibit a tendency to convulsive disease. Hooping-cough is of a similar kind, but it is something more. This is to be treated chiefly by remedies which act on the reflex function in operating on the muscles affected by the excito-motor function, such as narcotis, stramonium, and hydrocyanic acid;—sometimes nervous tonics, such as oxide of zinc and carbonate of iron. These are more useful in case of disease of the nervous system connected with the respiratory organs, than merely of the respiratory organs themselves. There is excessive irritability of the bronchial tubes and the glottis: but sometimes the irritation more particularly affects the glottis, or other tubes, during forcible inspiration, and causes the sonorous or back draught, or the hooping-cough—and this occurs chiefly, but not exclusively, in the convulsive cough of children: under these circumstances, the first remedy is more particularly a narcotic, stramonium or belladonna. The affection, here, is not only one of the external muscles, but there is spasm in the bronchial muscles, and those of the glottis, during inspiration, so that they do not relax at the time of the inspiration, and there is violent expiration accompanying, and difficulty in the passage of the air. Then there is the hooping or shrieking cough, not unfrequent in hysterical females; it is one of a very remarkable character, more alarming than serious. This depends on the spasmodic contraction of the glottis during expiration, so that the glottis is kept in a state of vociferous contraction; in such a state, the air passing through it produces a noise—in fact, a voice; indeed, the act of coughing is accompanied by a hooping or a shriek, and in many cases this is exceedingly under the control of the individual, if she choose to exercise her power. The remedies, here, are anti-spasmodic, such as turpentine and assafœtida, and other medicines of that nature. There is another state of the air-tubes, that of extreme relaxation, so that they do not contract; and the cough in these cases is a sort of halloa, with a great difficulty in expectoration. It causes chronic laryngeal diseases, sometimes, in nervous and hysterical subjects, and it occurs with a sort of paralysis of the muscles of the glottis. In nervous and hysterical persons, the best way of remedying the cough is, by particular means, to stimulate the muscles concerned in the affection. Electricity will sometimes cure a severe cough, when there is no particular irritation. Turpentine, in small doses, is particularly useful in this variety of cough.

The character of the bronchial secretion modifies the cough in a very signal way; thus, for instance, we find a dry cough from a want of expectoration, and a moist cough from an excess of expectoration. The cough, being dry, depends on the deficiency of the expectoration, and usually on an inflammatory state of the bronchial tubes, and this may be opposed to the loose or fat cough, called so by the French. Now, these different varieties of cough may become the subject of special treatment; and, therefore, may be treated in various ways, according to the irritation, or the state of the membrane.

One word more, on the subject of cough connected with expectoration. This arises sometimes from bile, as well as from a diseased state of the organs. Expectoration may be evidenced as a morbid act of respiration, or in connection with the matter expectorated. Now, the act of expectoration arises from various sources. The respiratory organs are naturally adapted for expectoration to take place. The trachea and the air-tubes, ramified, may be represented as a cone, the base of which is in the periphery of the lung, and the apex of which is at the glottis, and the division of the tubes are just of that description which favours the occurrence of the cough. The air is flowing upwards as well as downwards, and is very likely to promote the passage of the expectorated matter upwards.

Hippuric Acid in Urine.—To detect the free hippuric acid after the administration of either benzoic or cinnamic acid, it is merely requisite to inspissate a portion of the urine by means of a steam bath, to boil the resulting extract with alcohol *in vacuo*, and allow a little of the clear supernatant liquid to evaporate spontaneously upon a slip of glass. In the course of some hours, characteristic crystals of hippuric acid, namely, quadrangular prisms, with dihedral summits, may be distinguished with the microscope. This agrees with the recent researches of Pelouze, who has shewn that urea may be present along with lactic, or hippuric acid, without entering into chemical combination with either of them; thus, demonstrating the fallacy of all the theories based upon the supposition of the existence of lactate, or hippurate of urea.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

At a meeting of this Society, held March 14th, 1843, Edward Stanley, Esq., F.R.S., President, in the chair, the following papers were read:—

Some Account of an Hysterical Affection of the Vocal Apparatus—by Oscar M. P. Clayton, Esq.

The author prefaced the details of his paper, by drawing attention to the too frequent generalization of the treatment of hysterical affections, which he supposes chiefly to arise from hysterical disease being confounded with diseases occurring in an hysterical diathesis.

The cases, 16 in number, occurred in two groups—the first beginning in February, 1841, accompanied by well-marked progressive symptoms—the second in October last, in which the symptoms were clearly hysterical, and imitative from the first. They occurred in a charitable institution for the maintenance of female children, and those attacked were from 11 to 14 years of age. In February, 1841, seven of the children were attacked as follows:—with a short hacking cough, almost constant; much pain and distress in breathing; no expectoration; pulse quick, hot skin, tongue white, bowels costive. After two or three weeks, during which time these symptoms withstood all remedies applied, the cough changed to sounds varying in the different patients; in some, resembling the double action of a large saw, in another, a shrill screaming expiration, followed a quick, catching, inspiratory effort; in another, the sound was like that produced by blowing into a small, metallic tube—in fact, it is difficult to conceive the dissonance and constancy of these sounds.

Besides these, one girl, aged 14, became affected with symptoms exactly resembling those of laryngitis, and requiring the usual means for their removal, but, after a week or two, the noise above alluded to supervened. In the commencement, sinapisms, blisters, expectorants, and nauseants were tried in various forms; and, subsequently, sedatives, alone, and conjoined with anti-spasmodics, without avail. When the anomalous sounds were established, a combination of hemlock, sulphate of iron, and quinine, was given, as well as full doses of sesqui-oxide of iron; these remedies, however, produced no effect, till the children were separated from one another, when, with the exception of two, who were sent home, the patients slowly recovered. The two who were removed speedily recovered, although all required the long-continued exhibition of mineral tonics, to remove the very considerable debility that remained.

In the second group, commencing in October last, the double sounds—the inspiratory and expiratory—succeeded almost immediately on the hacking cough, and there were some catarrhal symptoms; on the whole, the hysterical character was well marked. A considerable number were now attacked, many of those who had formerly laboured under the same symptoms. Their form became alarming to the neighbourhood. No remedial means—including turpentine, spiritus ammoniæ succinatus, anti-spasmodics, tonics (mineral and vegetable), combined with the regular use of the shower-bath—being, after long continuance, found of any use, the author determined to try the effect of mental influence; and following the example of the celebrated Böerhave, he assembled the children, and informed them that he should, with a red-hot instrument, bore the throats of all who were not well by the following morning. Their fright urged them to escape from the school on the next day, when they ran to their respective homes, and on being collected at the school on the day after, were all found to be well. Two of the elder girls did not escape, and in them the symptoms persisted; and in the others they returned in little more than a week. All other means failing, their throats were blistered with a spatula, heated in boiling water, and covered with a silk handkerchief. This, with some, succeeded—in two others, secluded from the rest, the affection gradually wore out; but two were at last sent to their homes, where, removed from their noisy companions, they soon recovered.

Dr. Mayo observed, that imagination was affected very much by disease; but, as far as the application of it was concerned, it was of little use without some stimulus. Cold effusion he thought efficacious in some such cases as those stated in the paper just read. He thought the better word would be, *sympathy*, and not imagination.

Case of Erectile Tissue in the Popliteal Space, and its Removal—by Robert Liston, Esq., F.R.S., Surgeon to University College Hospital.

The patient was a stout, healthy-looking lad, 10 years of age. He had a tumour on the right ham, of an oval shape, about 3½ inches in its long diameter, unattached to the skin, and unattended with pain. It had a doughy, elastic feel, giving a sensation, when the limb was extended, almost exactly resembling fluctuation, produced by deeply seated matter. When the limb was flaccid, this sensation was less perceptible, and it had more the feel of an elastic, solid tumour, which was moveable, and could be distinctly raised from the bone. The tumour first attracted attention when the patient was about two years of age. In the course of a year it had increased in size, so as to be nearly the size of a turkey's egg. Being punctured at this time, with a grooved needle, no fluid escaped. It slowly increased, without occasioning pain or inconvenience; and, three years ago, a surgeon passed a seton through it, which was withdrawn in a few days, when a discharge had been established. No benefit was gained by this proceeding, or by other means adopted to reduce its size. The operation for its removal was performed on Jan. 6th. An exploring puncture, with a bistoury, was first made into the centre of the tumour; this was followed by a profuse discharge of blood, and the swelling somewhat diminished in size. Its surface was next exposed, by dividing the skin and fascia, and it was soon observed that it had the aspect of a fatty tumour, and was evidently much less in its dimensions than before the commencement of the operation. As the operation was proceeded with, the tumour continued to decrease in size. It was found that the substance of which it was composed was covered by the fibres of the semi-membranosus muscle, and to extirpate it, it was necessary to cut into the muscle. In the course of the operation the tumour had to be followed deeply into the popliteal space, and had to be dissected off from the nerve, and a good deal of blood was lost: only one vessel required ligature. The wound healed favourably, and the boy was able to walk about the ward on the tenth day from the operation. On making a section of the tumour, it was found to consist of a mass about the size of a hen's egg, of most perfect erectile tissue. On a microscopic examination, an appearance was visible like that of the musculi pectinati of the heart; the columns of the reticulated structure being covered with a smooth membrane, resembling that lining the inner surface of veins. A preparation of the tumour was exhibited.

The author adds some observations on the circumstances which were peculiar in this case, directing the attention especially to the difficulties occasioned in the operation, by the tumour being covered on all sides by muscular fibres, and by the diminution which occurred in its size as he proceeded. He closes his remarks by offering the opinion that the tumour was developed in the substance of the muscle with which it was connected. Another case is appended, where the author removed a tumour of a different construction, from the side of the neck; and where he was of opinion that the morbid substance originated in the interior of the sterno-cleido mastoideus muscle.

A drawing of this tumour was shewn.

Mr. Lawrence thought this case was rightly stated, by the author of the paper, to be a rare instance of erectile tissue in the substance of the muscle. He recollected a similar tumour in the deltoid muscle, in a child three years of age. He saw the child after repeated efforts had been made to get rid of the tumour, and he recommended the removal of it. He divided the integuments, expecting [t]o expose the tumour and easily detach it from t[he] muscles; but, when he came to it, it appeared [to] be really a part of the deltoid muscle itself, and [he] could find no termination of it; and on procee[d]ing further, he found the excision of the musc[le] necessary to remove the tumour, which present[ed] a congeries of vascular ramifications. He, how[ever] took it out, and when he had done so the[re] was little to be seen: there was a large quanti[ty] of blood, and nothing else to be observed but [a] mass of enlarged vessels, which, under the ski[n] formed a considerable swelling, but, when expose[d] became reduced to a very small bulk. Nothi[ng] further, remarkable, occurred in this case. T[he] edges of the wound made were brought togeth[er] uniting very well, and the cicatrix was perfect[ly] sound—and the child had continued well up to t[he] present time. He then went on to observe that [he] had met with something of a similar character [in] the course of an operation where he undertook [to] remove a large tumour from the ham of a patie[nt] 40 or 50 years of age. This tumour arose fr[om] the patient sitting on some iron fastening on [a] coach for a considerable time, during a lo[ng] journey. The tumour when he (Mr. Lawrenc[e]) saw it had grown to a considerable size—leec[hes] and lotions, and other things, having failed to r[e]move it; and it was deeply seated in the ha[m], tolerably loose, and moveable. He decided th[at] there was no remedy but an operation to effect [its] extirpation; and, as it was deeply seated, a co[n]siderable excision was required. On making t[he] incision, he failed to discover the boundaries [of] the tumour, which presented a congeries of vei[ns] from which the blood flowed in immense quanti[ties]. Having failed in getting at the boundaries of t[he] tumour, he saw no other course to be adopted [but] that of closing the wound; and he intimated [his] fears that the patient would not recover from t[he] effects of the operation, as he was apprehe[n]sive that an oozing would take place from t[he] wound, which he did not expect would clo[se] effectually. The patient, however, did recov[er], although he had been brought to a very low sta[te] from the extreme loss of blood that had tak[en] place. All alarm subsided, but the wound w[as] not quite healed: an opening took place in [the] part, and ultimately a much larger tumor [oc]curred in the same place, filling up the ham h[igh] up the thigh, and extending downwards to the l[eg], and all the inconveniences of the first tumour [re]curred. In this state of things, he expressed [his] assent to an operation; the tumour, he thoug[ht], must necessarily be fatal if it remained, [but] if it could be removed it might save his li[fe]. The first attempt, however, was very discouragi[ng]. The patient, however, decided upon submitting [to] the operation, and it was performed. He (M[r.] Lawrance) undertook the operation with gr[eat] anxiety: the swelling was very large, and [he] doubted the possibility of cutting it away; ho[w]ever, as the patient had placed his life in his han[ds], he determined to do the best he could. He fou[nd] it necessary to make a very large incision high [up] the thigh, and down into the calf of the leg, [in] spite of which, he found it almost impossible [to] arrive at the boundaries of the swelling. Af[ter] cutting away a considerable portion of the swelli[ng] he at last removed it. Contrary to his expec[ta]tions, the patient recovered, and lived for thr[ee] years afterwards, and might be considered as p[er]fectly cured. The patient died at last from so[me] internal disease.

Mr. Liston mentioned the case of a tumour i[n]volving the popliteal nerve, in which three inch[es] of the nerve was removed, the patient recoveri[ng] with merely the loss of power in the extremities.

Mr. C. Hawkins related a case of a tumo[ur] in the same position, in the removal of which, [he] divided the vein, to which the tumour w[as] attached. The vein was tied, and the tumour r[e]moved without any more trouble: the patient s[uf]fered considerably at the time, but ultimate[ly] recovered.

Mr. Bransby Cooper mentioned the case of [a] tumour operated upon by Mr. Green at [St.] Thomas's Hospital. It was about the size of [a] pullet's egg, and was deeply decussated with t[he] muscle. A large incision was made—the skin a[nd]

fascia were cut through, and the tumour considerably diminished, but it was not removed. The edges of the incision were brought together, and in six years afterwards the tumour remained in *statu quo*. With these tumors that were thoroughly of erectile tissue, communicating with the popliteal nerve, however difficult it might be to remove them entirely, it was yet worthy of consideration, whether some means could not be adopted to reduce them so much in size as to hope for a favorable change.

The discussion was adjourned to the next meeting.

SIR JAMES CLARK ON MEDICAL REFORM.

The worthy baronet has favoured us with a copy of his second letter to Sir James Graham. We shall this week content ourselves with giving a few of the more important passages.

Our first extract will be on *Medical Education*—the matter principally dwelt upon in this letter. After shewing its importance, its necessity, the comparative want of it long exhibited, *peculiarly* by our own country—the writer thus perspicuously exhibits the absolute and relative positions occupied by the general practitioner, the surgeon, and physician, deducing from it a powerful argument for the necessity of interference.

Medical practitioners of all classes are now much better acquainted with the structure and functions of the living body in a state of health, and with the causes and nature of those changes which constitute disease; and they are also possessed of more resources in the treatment of disease, than were their predecessors at the commencement of the present century. The rate of improvement has not, however, been equal in the three classes of medical practitioners. The apothecaries, who had most to learn, have made greater advances in this respect than the physicians and surgeons; generally speaking, they may indeed be said to have risen from a state of comparative ignorance and inferiority, to emulate the latter in professional acquirements and to share with them the confidence of the public.

As a natural consequence of this state of things, a material change has taken place in the duties and relative position of the apothecary and of the other two classes. From being the humble individual whose duty it was implicitly to follow the directions of the physicians, and compound the drugs which he prescribed, the apothecary has gradually risen to be the ordinary medical attendant of the great bulk of the population; and, for the most part, he is now only required to summon the physician to his aid in cases of difficulty or danger. Such, at the present day, is the position of the apothecary, or, as is he now more appropriately styled, the general practitioner. The expectant mother during her pregnancy is under his direction; he conducts her through the often critical period of parturition, and her offspring from the moment of birth is his accustomed charge. Can a medical man have more important or more responsible duties confided to him? Ought any man to be intrusted with such duties who has not brought a well-instructed and disciplined mind to the study of a profession involving such vital interests? And it is the duty of the legislature to take care that no man shall be licensed to undertake these duties without having adduced proofs of being qualified to perform them? These are questions which admit of being answered in one way only. Upon the skill and judgment of the general practitioners depends mainly the health of the community; because they are, as we have seen, the ordinary attendants of the great body of the people, and the diseases of almost all ranks come under their care at their onset—the period be it observed, when disease is much more under the controul of efficient medical treatment than at any other: upon judicious management during the first few days—it may be hours—of an acute disease—depends very often the result of the case.

The relation of the apothecary to the surgeon has been no less altered; and, as a consequence of this, the character of the surgeon's practice has undergone a remarkable change.

Not many years have elapsed (some surgeons now living have, no doubt, witnessed the change) since surgeons of hospitals, and those who have been styled pure surgeons, were alone intrusted with the treatment of surgical diseases, and with the performance of all operations of any consequence. Patients with local disorders requiring operations were brought from great distances to London and other large towns where operating surgeons were only to be found. At present, on the contrary, general practitioners in the smaller towns, and even in villages over the whole country are frequently called on to perform the most important operations in surgery, in cases where the patient must lose his life were immediate assistance not procured. A considerable part of the practice of the surgeons, as well as of the physicians, has thus fallen into the hands of the general practitioner; and the result has been, that the surgeons finding themselves deprived of a large share of what they were accustomed to consider their legitimate right, now undertake the treatment of purely medical as well as surgical diseases; differing in their practice from the general practitioners only in not attending to midwifery, and not supplying their patients with medicines.

From this exposition of the relative position and functions of the three different classes of medical practitioners, it will, I think, be admitted,—First, that the duties of the general practitioner are not the least onerous or important; and, secondly, that the professional duties of the three classes being essentially the same, so ought to be their medical education—up, at least, to that point which is considered sufficient to qualify for general practice.

He now disposes of the objections to the requirement of a good preliminary education, on the quality and quantity of which Sir James thus discourseth:—

It is self-evident that the preliminary instruction of the medical student ought to comprehend at least those branches of literature and science which are absolutely necessary to enable him to understand his professional studies. For this object he requires a certain amount of classical knowledge, in order to read professional books and understand professional terms; he must be familiar with the common rules of arithmetic, and he ought to know something of geometry, to enable him to make the most common calculations or measurements; with the principles of physics or natural philosophy he must be acquainted, to understand some of the most important functions of the living body, and the operation of the various natural agents with which we are constantly surrounded, and which exert an unceasing influence in the preservation of health and the production of disease. In like manner the principles of chemistry are necessary to prepare him for comprehending the more complicated processes of that vital chemistry which is continually in action in the living body. Chemistry has hitherto been considered, but improperly, a part of the medical curriculum. It is no more a branch of medicine than is physics. The student should be well instructed in the principles of both, before he commences his strictly professional studies. In the course of these he will have occasion to resume the study of chemistry in its higher departments—its application to physiology, to pathology, and to therapeutics; but to enable him to do so, a knowledge of the principles of chemistry ought to form part of his elementary education.

The elements of botany should also form part of his preliminary instruction, and more especially the structure and functions of plants, as a preparation for entering on the study of the more complicated anatomy and physiology of animal life. Nor ought he to be ignorant of the other branches of natural history, of meteorology, zoology, and geology. Without some acquaintance with these sciences he could not understand or investigate some of the common causes of disease, or draw up the simplest medico-topographical account of any situation in which he might be placed; he would scarcely be qualified to perform the duties of a medical officer to a poor-law union. In addition to an acquaintance with these branches of natural knowledge, which I deem indispensable, he ought to know something of the Philosophy of Mind, to guide him in reasoning correctly, and exercising his judgment on the subjects and objects presented to his observation during the study and practice of his profession.

Such are the branches of knowledge with which every youth ought to be acquainted previously to his commencing the study of Medicine. Without such preliminary instruction, and the mental discipline which it implies—and which, be it observed, forms an important item in the list—I do not hesitate to affirm that the student can never thoroughly understand medicine as a science or practise it as an art, with satisfaction either to himself, or full benefit to the public. Respecting the amount of acquirements to be exacted in each of the subjects enumerated, there is, no doubt, room for difference of opinion; but I regard the amount as of less consequence, in the first instance. Let the minimum fixed be very moderate, and the natural emulation of students and schools, and the daily increasing facilities for the acquisition of such knowledge will be the means of soon raising the standard of that minimum. It is hardly necessary to observe, that, however, small may be the amount of knowledge required, is ought to be sound as far as it goese not a smattering of the different subjects, but a knowledge of principles, upon which a superstructure may subsequently be reared.

On the present want of education, he says:

In proof of the almost total disregard of preliminary education, the following statement, recently made in a public lecture by Mr. Guthrie, will be admitted as unquestionable evidence:—"I regret to say," observes that gentleman, "that among the students who entered the profession some years back, and are only *now* presenting themselves for examination under the regulations of 1836, there are many who cannot spell very common words in their native language."* Mr. Guthrie has been long on the Council of the Royal College of Surgeons, and, is, therefore, well acquainted with the acquirements of the candidates for the College diploma. What these were before 1836, Mr. Guthrie does not inform us; but such, it seems, is the deplorable state of ignorance of a portion of those permitted at the present day to pass the Royal College of Surgeons of London! Are men so educated worthy of being intrusted with the important duties attaching to the ordinary medical attendants of the community? Is it surprising that quackery and quacks should thrive, when such is the education of the regular practitioner? Natural talents and good sense may compensate, in some measure, for a defective education, and enable men to become good practitioners in a profession where so much depends upon the sagacity and powers of observation of the individual; but it is surely hazarding too much to permit men so ignorant as those described by Mr. Guthrie to undertake the responsible duties of a surgeon. Such a state of things ought not to exist in a civilised country, and would not have existed at the present day, had the institutions intrusted with the regulation of medical education done their duty.

On a grade of medical men, with inferior education, we have the following remaks:—

If, in an evil hour for the character of the medical profession and the progress of medical science in this country, it should be decided to keep a subordinate class of practitioners, required only to have a slender education, and to pass a slight examination—the amount of their education to be regulated, or at least tested, by the very bodies whose object seems to be to keep them in their present degraded position—I hope that a better educated class of general practitioners may also be recognised, and that some encouragement may be held out to induce medical students to prefer the

* Clinical lecture delivered in Westminster Hospital, Oct. 15, 1842.—See *Medical Times*, Oct. 22, 1842.

latter. Let their qualifications be such as to entitle them fairly to the degree of Bachelors of Medicine, and give them the right of becoming members of the corporate body or bodies of the profession, and at no distant period the former class will, I trust, disappear.

But I cannot believe, Sir, after you have been made acquainted with the responsible duties of the general practitioner, that you will recommend, or the legislature sanction, a scheme fraught with such injurious consequences to the profession, and such injustice to the public.

I can easily believe that you are not a little perplexed by the different opinions which you may receive on the education and position of the general practitioner; but there is one test by which you may safely try those opinions, namely, the *minimum* education and the character of the man to whose care you would willingly trust your own family in a serious illness, when you could not call in the aid of the physician.

TO CORRESPONDENTS.

We shall next week give another extra Number, 72 quarto columns, for 4d.! It will be the first of our new volume, and will give the first Lecture of a Course by Professor BRANDE, *of Her Majesty's Mint, F.R.S., L. and E., &c. &c., on the all engrossing subject,* ORGANIC CHEMISTRY.

A Friend.—*The London deaths by typhus in the week ending March* 11 *were* 55, *in the preceding week* 51. *The weekly average during the last five years has been only* 37. *Scarlatina is about the yearly average.*

A. B.—*The election of members of the council is in no particular, deserving notice, changed by the new charter to the Pharmaceutical Society.*

A Constant Reader.—*The omission was the printer's.*

Quack Assassination.—*The following atrocious case is extracted from the Coroner's minutes of evidence, kindly sent to us by Mr. Prankerd, surgeon of Langport, Somerset, a gentleman who deserves our highest thanks for the assistance he has before this, rendered us in unkennelling the unholy brood of men destroyers. Barzillard Card laboured under some taint apparently of syphilitic, or less probably scorbutic disease, which now shewed itself, after an intermission of three years on his thighs and scrotum. A quack doctor, named* Corner, *was consulted, and gave the poor fellow a lotion composed of arsenic and water, in the proportion,* Corner *says, of half an ounce to two quarts, with an order to drink a decoction, made of dock roots, and middle bark of elm. The lotion was applied to the parts abraded by the disease, the poison was taken into the system, and the usual symptoms in such a case followed, viz. restlessness, acute pain, fainting fit, retching, violent vomitings, swellings, fever, delirium, death. When Mr. Tomkins, surgeon, saw the deceased just before his death, the following were the symptoms. "On visiting the deceased I found him in bed, and in a dying state, his thighs swollen, the left particularly so, the scrotum, the abdomen, the face and head were also much swollen. I understood, from some of the family, deceased had been constantly vomiting and purging for some hours. His tongue was very nearly black, and I also understood he had experienced difficulty in swallowing. He was delirious, and incapable of answering any questions wholly, except when roused, his eyes were suffused, and I could not distinguish any pulse at the wrist." The jury found that it was from deceased's* improper *use of the lotion that his death took place! The wretch that did the mischief is therefore at liberty.*

A Constant Reader *sends us eight queries in reference to the quis quid, quomodo, quando, &c., of Dr. Willis, which we have neither the power nor certainly the inclination to answer. As a matter of courtesy, we have ordered a copy of them to be forwarded to the worthy Doctor; and on his views as to the expediency of a notice, our correspondent must depend for an answer.*

Mr. P. O'Brien.—*We have received the note, and forward the journal. The rule with London journals is to be paid in advance.*

Mr. Rudkin *writes to us in confirmation of Dr. Trusen's opinion on Croton oil in remedying hoarseness. He has, however, now a patient, who laboured under laryngeal and tracheal inflammation, on whom the oil was inefficient, and whom he succeeded in relieving by a lotion made of*

Argent Nit. ʒj.
Aqua distil. ℥ss. m.

applied to the tonsils and posterior part of the pharynx with a camel-hair pencil, night and morning.

A.—*Mr. Wakley is as silent as the poisoned man, on the subject of the inquest. We should be glad to see him publish the true minutes of the evidence.*

We are obliged to decline the communications of J. A.—Argus—Philo-Mercator—A Constant Reader, Bath—A Constant Reader, Finsbury—M. N. H.—Physicus—M. D., Edinburgh. *Others are under consideration.*

THE MEDICAL TIMES.

SATURDAY, MARCH 25, 1843.

Proximorum non incuriosi, longinqua sectamur.

THE medical profession in France is dependent for its present form and government principally on the law of the 19th Ventose, an XI. (10th March, 1803), the law of the 21st Germinal, an XI., with incidental enactments occurring since in laws or ordinances, having generally a wider operation.

The first great maxim in French medical legislation is, that no man shall practice medicine, surgery, or pharmacy, unless he can shew a strict legal title. The divisions we remarked in Germany, exist in less extent, and in greater uniformity, in France. We have Doctors (1) both of Surgery and Medicine—(2) of either—(3) Officiérs de Santé. Mr. Lee, in his useful and elegantly written work on Foreign Medical Institutions, has given so good a summary of the education and standing of these different grades, that we cannot do better than submit it in lieu of as many remarks of our own.

There are in France three Facultés de Medecine, viz. at Paris, Strasbourg, and Montpellier; the two latter being much inferior, as schools, to the former, so that many of those who have there taken their degree, are not satisfied unless they likewise possess a Paris diploma. At most of the large provincial towns there are also secondary schools for medicine, where lectures on the various branches of the science are delivered, as preparatory to those which the students resident in these towns have subsequently to follow when they come to pursue their studies in the metropolis, or at either of the other Faculties. An inferior grade of practitioners, termed officiers de santé, who are restricted to practise in the smaller towns and villages, attend for the most part the courses of instruction at the secondary schools; and after having lived for six years with a Docteur en Chirurgie, or attended hospital practice during five years, they are eligible to undergo the examinations which authorize them to exercise their profession, viz. an examination on anatomy; one on the elements of medicine, and one on surgery and on pharmacy. The whole expense attending these examinations does not exceed two hundred francs. Officiers de santé are prohibited the performance of important operations. No persons, with the above exception, are allowed to practise in France unless they possess a diploma of a doctor of medicine, or doctor of surgery, from one of the faculties.* Candidates for the diploma are required to have studied four years, during which period they have to take out an inscription every three months for attendance on the lectures and hospitals. Members of foreign colleges and universities may, however, present themselves for examination after two years study in Paris. The scholar year begins on the first of November, and terminates on the thirty-first of August. The expense of the course of study required for making a degree does not exceed a thousand francs, (£40).

The following is the prescribed order of study.

First half year—Anatomy, Physiology, Chemistry. Second—Medical Physics, Hygiene, Medical Natural History. Third—Anatomy, Physiology, Operative Surgery. Fourth—Hygiene, Medical Pathology, Pharmacy. Fifth—Operative Surgery, Medical and Surgical Pathology. Sixth—Clinical Medicine, Clinical Surgery, Materia Medica. Seventh—Clinical Medicine, Clinical Surgery, Medical Pathology. Eighth—Medical Jurisprudence, Therapeutics, Obstetricity.

The examinations for the diploma are made publicly, and are five in number. The first takes place after the fourth inscription has been taken out; the second, after the twelfth inscription; the other three take place at the termination of the course of study. An examination lasts two hours; four candidates being questioned at a time by three examiners. Each examiner receives a salary of six thousand francs per annum. The examination fees are likewise divided amongst them—these amount to one hundred and fifty francs for each candidate.

The subjects of the first examination are, Natural History, Physics, Medical Chemistry, Pharmacology. Of the second, Anatomy and Physiology. Third—General Pathology, Medical and Surgical Pathology. Fourth, Medical Jurisprudence, Hygiene, Materia Medica and Therapeutics. Fifth, Clinical Medicine and Surgery, Operative Surgery, and Obstetricity.

For the anatomical examination, the candidate is required to dissect and prepare a part of the body which is indicated to him on the same morning, and to answer the questions proposed to him relative to the preparation. Candidates have also to write and defend a thesis on some points of medicine or surgery. The clinical examinations take place in the clinical hospital at the bedside of patients.

As minor points, it may be added to Mr. Lee's statement, that "the clinical examinations" refer to external or internal lesions, accordingly as the candidate seeks a surgical or medical diploma,—that all medical men, with diplomas received before 1803, are not interfered with in their former privileges by subsequent legislation,—that the *Government* can, by law, empower foreign Surgeons or Physicians, "Graduates of a University," to practice in France,—that the Officiérs de Santé are exempted, both from hospital practice, during the five years, or from attendance on Surgeons' or Physicians' practice six years, on passing three consecutive years at one of the Schools of Medicine,—that they are examined in the chief town of their department, by a jury composed of two resident Doctors, and a President chosen by Government from one of the State Schools of Medicine,—and that they cannot practice out of their own departments.

REGISTRATION.—The Doctor or Officiér is bound, within a month of settling in practice, to present his diploma to the Government officers (the one a *legal*, the other a *state* employé) at the town where he establishes himself: two lists are thence made up once a year by the Commissaries and Prefects—and presented, the one to the "Minister of Justice," the other to the "Minister of the Interior."

* English medical men in France are, however, allowed to practise among their own countrymen.

Persons acting illegally as Doctors, may be fined a thousand francs, and five hundred if falsely pretending to be Officiérs de Santé. An unlicensed midwife subjects herself to a fine of a hundred francs.

In another number we may make known the French law in regard to patent or quack medicines.

Nam deteriores omnes simus licentia.
TERENCE.

We extract the following observations on the autopsy of the late Richard Carlile, from the last number of our able contemporary, the *Carlow Sentinel*:—

The moralist and the Christian cannot entertain any other but feelings of abhorrence and disgust at the fearful prevalence among humanity-mongers and modern philosophers of that morbid sympathy for great criminals whose hands have been either uplifted against the law of the land or against the commands of the Almighty. Hence the lock of hair of such a cut-throat as Courvoiser, is eagerly sought for as a precious relic by some sentimental young lady. There are not a few who now admire the "manly consistency" and the "fortitude" of a miserable "atheist;" and some popularity-hunting anatomical lecturer in London, named Grainger, delivered something between a funeral oration and a lecture "to a crowded audience" over the mortal remains of this "*victim to prejudice!!*" whose opinions are oracularly said to be "deliberately formed," and his "convictions sincere," from such peculiar conformation of the system, and a long dissertation follows on the cerebral development to prove the dogmatical assumptions of the learned lecturer. These exhibitions inflict deep injury on the public morals, without contributing much to the advancement of medical science; and it is to be hoped that such influential and respectable journals as the London *Medical Times* will exert itself to prevent the delivery of those funeral orations over the bodies of such enemies of social order, civilization, and Christianity as the notorious Richard Carlile.

Though, by the special request of the authorities of St. Thomas's Hospital, we were made the channel of publication for Dr. T. Williams's able paper on the physical conformation of the person, so strongly censured by *The Sentinel* we forbore at the time expressing any opinion of our own, as to the conduct of either the donors or recipients of the singular bequest. Our reason was, that, apart from whatever utility science might extract from an anatomical examination of the corpse—*as a corpse*—there was nothing in the death of the individual, or in his character generally, that required, especially from a medical journalist, a moment's public notice. In Mr. Carlile's uncleanly, unwholesome, public displays against not more the religion than the *good taste* of the country—we never saw anything but the characteristics of a semi-madman: and the fact announced by Dr. T. Williams, that the distinct remains of prior disease were found in the substance of his brain—disease evidently, from the statement, of no recent origin—this fact goes far to justify the charity which would consider him to have wanted, at times, a satisfactory controul over his actions. So truly low, therefore, in the world of intellectuality, so much below anything but our fraternal pity as a public character, we cannot—if, thus called on, we may express as brief an opinion as the case warrants—but hold that the bequest of his body was not one of those events which would justify its being anxiously made the means of inviting the greatest possible amount of notoriety to the institution receiving it. While no prudishness on the one hand, blinds us to the meddling absurdity of the well-meaning governors, who thought it necessary to announce, publicly, that the cutting up of the body by their employé, Mr. Grainger, was not to be considered as their assent to their unfortunate legacy's former religious tenets —we must yet feel that no reason can be suggested why Mr. Grainger's promissory note for the autopsy should have been carefully made known to the entire public press; and the whole world, which had hitherto thought Mr. Carlile a very insignificant personage, have been startled by the announcement of the coming *post-mortem* examination as an event of at least regal importance. We wish we could impress scientific men more strongly with the truth, that true science shrinks from vulgar contamination, and if she courts *light*, certainly does not court it through *notoriety*.

EXTRACTS FROM FOREIGN JOURNALS.

(For the Medical Times.)

French.—*Observations on some Diseases peculiar to the Membrana Decidua. By M. Devilliers.*—The following are the conclusions at which M. D. has arrived on this interesting subject:—

The state of congestion, and of inflammation of the uterus, may be propagated to the *membrana decidua* and there determine the effects of inflammation, sanguineous engorgement, effusion of blood, and the formation of matter. The deciduous membrane may not only take part in the various congestions attacking the uterus, but it may also become the seat of diseased conditions, the ordinary result of inflammation. Moderate congestion taking place in a part or the whole of the *membrana decidua* is not always immediately hurtful to the existence of the ovum. It may be merely temporary, and disappear of its own accord, or under the influence of a prompt and vigorous treatment. Sanguineous effusion into the *membrana decidua* is a much more frequent disease, and this frequency seems to depend on the slight resistance presented by the parietes of the adventitious vessels. If the effusion be considerable, it may occupy not only the substance of this membrane and its cavity, but also rupture the other membranes and penetrate into their interior. Hypertrophy of a part of the membranes, which takes place after the death of the fœtus, and which gives rise to the mass denominated a *mole*, may also be considered as a product of disease of the deciduous membrane. Congestion and effusion of the deciduous membrane are most frequent during the early weeks of gestation, a fact which is explained by the close connection which it has, at this period, with the uterus. Finally, diseases of the *membrana decidua* are more common causes of abortion than is generally supposed. We have but carefully to examine the ova, expelled during the early weeks, to be convinced that, very frequently, the chief alterations are effected in this adventitious membrane.

Diabetes Mellitus successfully treated by Animal Regimen and Glutinous Bread.—M. Bonnefous relates the case of a patient affected with this disease, who came under his four months after its first appearance. He then voided daily two pailfuls and a half of urine, containing seventy *grammes* of sugar in 1,000 of the water. He was for two months subjected to the following treatment; a flannel covering was applied next the skin; as much animal food as he could take; and, after a short time, the common bread was substituted by that prepared with gluten, which was given *ad libitum*; some Bordeaux wine was also daily administered. The quantity of urine gradually diminished. The sugar completely disappeared from this liquid, and, in three months and a half, the patient left the hospital, apparently cured.

On Eczema and the Cutaneous Eruptions accompanying Teething.—M. Trousseau treats these obstinate affections, when spread over the body, with great success by means of mercurial baths. The following is the formula which he usually adopts for children; corrosive sublimate, sal ammoniac, of each from two to five *grammes* (half a drachm to a drachm and a half) to be mixed in a sufficient quantity of water to form a bath. In the adult he employs fifteen *grammes* of each. These baths, which exert so beneficial an influence in the treatment of all cutaneous diseases, especially in eczema and the chronic forms of impetigo, produce none of the bad effects attending mercurial absorption, and this, although the baths be administered daily, for one or two months. For the tooth-rash, which most usually shows itself under the form of chronic eczema, ointments made with red precipitate or calomel, in the proportion of one part to ten or fifteen of lard, produce a rapid improvement in the local state, and generally a perfect cure. In that form of milk-blotch attacking the face and hairy scalp, and which usually shows itself in pustules and impetiginous ulcerations, poultices should be applied to remove the crusts, and the hair should be cropped quite close, before applying the mercurial ointment, which must be continued as long as the disease shows itself.

M. Trousseau is, however, far from advocating the immediate cure of all chronic cutaneous affections, or even of all acute diseases of the skin occurring in children or robust individuals. The milk-blotch, for instance, in children often succeeds to a general indisposition, of which it seems to be the cause; it is characterized, either by an erythematous eruption, by eczema, or by impetiginous pustules. We must then, if not favour the original eruption, at least do nothing to check it; but as soon as the fever ceases, or the disease assumes a chronic form, we need no longer hesitate to attack an affection so liable to extend over the surrounding parts. When the cure is nearly complete, he generally applies a blister to the arm, and exhibits an occasional dose of purgative medicine.

Gangrene of the Vaginal Mucous Membrane caused by the administration of Ergot of Rye.—Case.—A female, about 40 years of age, affected with cancer of the neck of the uterus, which had destroyed a large part of this organ, being reduced to the last stage of marasmus by a sero-purulent and sanguineous discharge, was ordered the employment of catechu, combined with ergot of rye, the latter in the dose of one scruple to half a drachm in the twenty-four hours, and injections of carrot-juice, to which was added a little alum. Having used about three drachms of the ergot, she was seized with violent vomitings, and the whole vaginal mucous membrane was discovered to be in a state of gangrene. On holding apart the labia, this membrane was found of a dark slate colour, emitting the characteristic odour. In the course of eight or ten days it separated; but when the patient was getting the better of

this attack, the hæmorrhage recurred as before and proved fatal.—*Gaz. Med.*

M. Amussat in a paper on the *prolonged and graduated taxis, or the reduction of strangulated hernia by the united means of the surgeon and of one or more assistants*, deduces the following conclusions:—1st. The ordinary taxis is insufficient; in many cases, it requires a more sustained and greater force than that of a single operator, because the resistance to be overcome is too great, and the powers of the surgeon are too soon exhausted. 2nd. To act effectually when the operator alone is insufficient, we must associate the aid of one or more assistants, as in luxations, fractures &c, so as to prolong and graduate the taxis suitably and present some chances of success. 3rd. The process which he prefers consists (having first placed the patient upon some resistant body) in embracing the tumour, circumscribing it lengthwise instead of flattening it, and compressing its base perpendicularly to the ring, with two, four, or six hands at the same time. 4th. The results obtained by this proceeding, he states, to be very satisfactory; and he considers them of sufficient weight to induce a change in the established practice, that is to say, that instead of operating speedily as generally advised, we ought to prolong the employment of the taxis in the above method; a plan which he thinks will be attended with great success. 5th. That to be enabled to treat these diseases properly, we must study the surgical and pathological anatomy of the parts, and make ourselves in every way acquainted with the subject.

Artificial formation of a new Urethra.—M. Ricord presented lately to the Academy of Medicine a patient on whom he had performed the above operation, in consequence of the urethral canal having been completely destroyed by a phagedenic chancre, throughout the whole extent of its spongy region. The greater part of the skin of the penis had also been destroyed, and two-thirds of the circumference of the corpora cavernosa, as well as the longitudinal groove marking the course of the urethra, were covered with a thin tissue of cicatrix. The urine escaped below from an opening situated in a deep fold of the skin of the scrotum. To remedy this condition, M. Ricord suggested the formation of a new canal between the corpora cavernosa and the cicatrized tissue surrounding them. For this purpose, he employed a trocar-shaped instrument, somewhat flattened, and terminating in a lancet point. The instrument was first introduced by the meatus urinarius, and towards the middle of the glandular region its point penetrated into the cellular tissue surrounding the corpora cavernosa. In this progress, M. Ricord divided the external fold, until meeting with the gorget previously introduced into the opening through which the urine escaped. The artificial canal thus commencing at the centre of the glandular region was made to rejoin the portion of the urethra corresponding to the scrotum, at the distance of one *centimeter* and a half beyond its external opening. After this operation, which gave no great pain to the patient, a silver canula was introduced in the place of the perforating instrument, and two hours afterwards the urine escaped freely by this new passage. Compresses dipped in cold water were the only dressings applied to the wound. Very little swelling or inflammatory action occurred. The canula was replaced on the fifth day by a gum-elastic catheter, and since the 27th January, the day of the operation, the size of the catheters has been gradually increased so as to give this new canal a suitable diameter.

GERMAN.—*Cæsarean Section, with Recovery of Mother and Child.* By Dr. Ringeno, of Overath.—A woman, aged 30, of small but strong frame, and apparently regularly formed, had been already delivered three times by "perforation." Labour commenced this time on the 12th of August; the waters came away the same evening, pains very weak. In spite of the admonitions of the midwife to call in an accoucheur, the woman, by the advice of a neighbour, endeavoured to expel the child naturally by forcing down with the pains. On the 14th Dr. Klein, of Siegburg, was with the woman at ten o'clock, and, after vain efforts with the forceps, declared that help could only be expected from the cæsarean section. The woman, however, continued to bear down; at mid-day the pains were violent, and she suffered much. Dr. Klein was again present about the next mid-day. She would not hear of the operation. To mitigate the violent pain, Dr Klein gave some doses of tinc. opii., but without relief. According to the woman's account, the violent pains had continued for twenty-four hours; when I arrived about four o'clock P. M. she suffered frightful pains, she screamed for help, and wrung her hands unceasingly. At length, whilst I tried to examine the abdomen with the hand laid flat, her voice suddenly failed, and she could only whisper. The uterus was firmly contracted round the child's body; on touching the left half of the abdomen she appeared to suffer great pain.—*Internal Examination*:—First position of the occiput, the head partly pressed down into the upper aperture of the pelvis, immoveable, even during the pains; the promontorium not to be reached. The woman had not for many hours felt the motion of the child, yet, by means of the stethoscope, the heart beats of the child were clearly perceived; less clearly the placenta-bruit. The strength of the woman was pretty good. I agreed with Dr. Klein, as to the necessity of the cæsarean section, and, with the consent of the woman, performed it in the direction of the linea alba, while Dr. Klein with his hands defended the bowels from accidents, without meeting with any greater impediment than a part of the edge of the placenta falling in the direction of the wound, which was quickly cut through upon the finger. The right arm instantly projected into the wound; I, however, held it back, and not without some trouble extricated with the right hand the fast fixed head of the child, when the whole body immediately followed. The funis was twice wound round the child's neck (a strongly formed female); after taking it away and sprinkling it with cold water, it cried aloud, and moved itself in a living manner. The funis was tied, and the placenta, with the membranes, taken away through the wound. Duration of the operation and the application of bandages, one quarter of an hour. Little hæmorrhage; little pain. The woman was as well as before the operation, the pain of which was not to be compared with the overpowering labour pains, while the section produced only the feel of a light burning. August 16. The abdomen much swollen, painful to the touch; the windings of the inflated colon could be clearly followed by the finger; loud borborygmi, scarcely a trace of fever. By the use of a suppositorium very much flatus passed away, and the entire disappearance of pain. Henceforward all the functions regular, without the least disturbance. Elect. lenitiv. was only once given, on account of costiveness. She suckled her child herself, and her recovery proceeded so rapidly that after four weeks she was able to perform light house-work; after the first four days she sewed some articles she was in want of for the child,—for she had calculated only on having a dead child; some days later she was able to milk her cow and perform other usual labours. At this time she is in good health.

REVIEWS.

A Treatise on the Enlarged Tonsil and Elongated Uvula, in connection with defects of Voice, Speech, and Hearing, &c. &c. By James Yearsley, M.R.C.S. London, 1842.

WE must confess that we came to the examination of the book before us with no great predilection in favour of its author, yet it is but justice to state that the work is not without cleverness, and that it even displays some little novelty of practice. The effects of enlargement of the tonsils and uvula, are truly described in clear and forcible language, and were there not a too frequent and obvious aiming at popular effect, we think the treatise before us would have been of more benefit to the profession than it is ever likely to be. The author has made some just remarks on the *effects* of morbid condition of the throat on the organ of hearing, and glanced at the treatment of tonsilar and uvular enlargements. In the topical and constitutional treatment of these affections there is nothing new. The excision of the enlarged tonsil is also effected in the usual way if we except the modified form of the knife which cannot but be useful. In excising the *uvula*, the author reprobates the practice of removing only a *part* of that body, and justly recommends its *total* removal. This we consider the most important practical enunciation in the book and merits commendation. For obstructions of the nose the author recommends the use of an elastic probe or bougie, and for the removal of mucus from the orifice of the Eustachian tube, as well as for washing and cleansing ulcerations of the throat, an apparatus is recommended consisting of an elastic bag for holding the fluid to be injected and an elastic tube to convey the fluid along the floor of the nostril to the seat of the ailment. We have no doubt that both instruments will occasionally be found useful, but how the elastic probe can act beneficially in dilating *congenital contractions* of the nostril we are at a loss to discover. When the contraction arises from a thickening of the mucous membrane of the passages, dilating instruments will undoubtedly prove useful, but what effect can the introduction of such instruments have upon the bone? Obviously none, and in congenital contraction, the bone is always at fault. We place, therefore, no reliance *whatever* on the following announcement.

"There are cases, however, in which the nostrils and nasal canals are congenitally of small size, where the elastic probe, or any instrument capable of gradually dilating them, will be very beneficial. Of this kind was the case of a nobleman whose nares were so small that the passage of the Eustachian catheter, in Paris, by Deleau, (a very experienced operator,) occasioned much pain, but the careful performance of the same operation in this country, by means of a catheter of small size, which I had made expressly, afforded his lordship considerable relief, as far as the nasal obstruction from which he suffered was concerned."

On Gravel, Calculus, and Gout &c. By H. Bence Jones, M.A., Cantab, &c. &c.

THE failure, for the most part of endeavours, to unravel the proximate causes of disease, and the utter inability of forming satisfactory theories for the action of some of our most valuable remedies, are causes which have tended not a little to humble the pride of the philosopher, and to teach him how limited are his powers of investigation when employed to unravel the secrets of all-mystic life. Of all theories, none are so difficult to establish, or to disprove, as

those connected with medicine, hence the wild doctrines which ever and anon disfigure this beautiful science. Perhaps no set of men have proposed doctrines so wild, so devoid of all the elements necessary to ensure truth, and undertaken in such a spirit of unbecoming arrogance as the chemical pathologists. It will not be forgotten for some little time how cinchona bark was presumed to contain gelatine, because it happened to precipitate infusion of gall nuts, and how gelatine was forthwith introduced as a substitute for cinchona bark, and how many and wonderful were the cures which this gelatine effected in ague! After considering this, and some other parallel cases, it cannot be wondered at that "*chemical practitioners*" are treated with much distrust. Be it so, the circumstance is fortunate for them, and for the world; the chemists have a character to restore, and will restore it.

Of all diseases to which man is heir, those of gout, and calculus, are most strictly chemical, and may be supposed to be capable of alleviation in proportion as the circumstances which regulate their development are more clearly understood. It has long been known that an excess of uric acid in the system was an universal concomitant, and, therefore, the probable cause of gout, and the alkaline treatment of this disease has been vindicated in chemical principles. In no disease has the necessity for dietic measures been more obvious than in gout, although the regulation of this, hitherto, has been a matter of empiricism. From the immense strides which organic chemistry has lately made, we are now in a position to learn by reference to symbols what ingesta are most calculated to produce this uric acid, and the contrary, what measures are most likely to effect its decomposition. All this the author has most elaborately explained. Although he merely professes to elucidate the theories of his friend, and chemical instructor, Liebig, yet the treatise bears evidence of his own thorough knowledge of the subject. Perhaps to the medical public, the book would have been more useful had it been less profusely supplied with formulæ, the general tendency of which is to the effect that insoluble uric aeid is converted by a full quantity of oxygen into carbonic acid, aod urea, by a smaller quantity into oxalic acid and urea, that consequently our object should be to promote oxydation.

Gout, belonging as it does to the uric acid diathesis, occupies a large portion of the author's attention, the oxalic and phosphatic diatheses are also treated of. The presence of the former is also shown to depend upon the action of oxygen in uric acid. "In the oxalic acid diathesis, the oxydising process in the body is carried on a step further than it is when the uric acid diathesis exists, but it is still stopped short of the extent to which it is carried in the state of health."

It is in the oxalic acid diathesis that chemistry throws its greatest light, and prompts us to a mode of successful practice. Now, it is known, that oxalic acid results from the uric, and, therefore, the treatment in both cases should be the same. This has not, hitherto, been the case, for the presumed source of oxalic acid was thought to be decomposing sugar, a substance on which, therefore, an interdict was laid.

Chemistry does not suggest any new treatment in the phosphatic diathesis, but illustrates very satisfactorily the process by which such depositions occur. The two sources of phosphoric acid in the blood, are 1st. from the food, 2nd. from the oxydation of the phosphorus in the tissues. A portion of this phosphoric acid, in combination with lime, and magnesia, finds its way into the urine, where the phosphates are held in solution by free acids always present in healthy urine, when, from any cause, however, those acids are neutralized, or absent, a phosphatic deposition occurs.

The portion of the treatise on calculus is a condensed abstract, and professes to be no more. The whole book is written in a spirit of true philosophy, and we cordially recommend it.

THE PHRENOLOGICAL SOCIETY.

At a meeting of the members of the London Phrenological Society, on Monday evening, Dr. Elliotson, the president of that body, delivered to an audience, consisting principally of ladies, an address on "the plea of insanity." He commenced by referring to the universal disappointment, particularly manifested by the female sex, that M'Naughten, the assassin of Mr. Drummond, was not hanged for the horrible deed he committed. Calm thought, however, impressed us with the conviction that, if he had been hanged, it would have been a deed of cruelty, for M'Naughten being insane, of which there could not be a doubt, was not an accountable being. What was meant by "an insane person?" A person in his senses appreciated, and was expected to act according to, motives, but even here great allowances were to be made. The usages of the nation, to which he belonged, were to be taken into account; the morality, the received code of morality of that nation, presenting good or bad motives, might, or might not, relieve a man of the responsibility of a criminal act. Now, what was meant by saying that an individual was mad? The reply, which he, (Dr. Elliotson) gave, was either that he could not appreciate circumstances, or was completely under a delusion, mistaking things completely without any fault of education, not through accidental habits. This was the view of insanity given by Gall, who considered insanity to be of two kinds, where there was a delusion, such as frequently occurred in states of hypochondriasis, and where persons did things which were wrongfi l in spite of themselves. There were instances of persons who committed murders and robberies, without any motive, but from the force of some irresistible delusion; other persons who fancied they were called upon to do certain things, and that they were to be raised to some high situation; and that they were kings and emperors; and, even, in some cases, to believe that they were the Almighty. In all these cases some feeling or faculty of the mind was diseased. It was important to know that there might be cases of this description without any delusion. Persons acting under delusions, or impulses, knew that these impulses were wrong, and it was often incorrect to say, that a maniac did not know the consequences of certain actions, that they were wrong in law and punishable. There were many cases of persons who had committed murder, and had, beforehand, "hoped, to God, they should not do it," and entreated their friends to bind them down, and restrain them from doing what they felt they would, otherwise, be irresistibly impelled to do. These facts were important to be noticed at the present time, because persons were said to be punishable if they knew that they were doing wrong; nay, that they were acting in opposition to the law. It was an unquestionable a et that many insane persons knew they were doing wrong, but were unable to resist the impulse. He could only account for this apparent anomaly by supposing that there was an exceedingly rapid alternating action of the brain. It was not, he said, true to say, that if a maniac *knew* he had done wrong, or purposed doing wrong, that it was a circumstance rendering him deserving of punishment; he might know all the time that he was doing wrong, and yet be unable to resist it. It often happened that madmen were favoured with talent, and extreme sagacity, on many points. Sometimes it was said that a person could not commit crime from inadequate motives, but it was quite impossible in many cases to discover any motive whatever for the crime of a madmen; the impulse in such a case appeared to come on inevitably, unexpectedly and to overwhelm him. There could be no doubt about ascribing a crime so committed to insanity, many circumstances, blows, and other injuries, producing nervous disturbance, might lead people otherwise sane, to commit insane acts, and, therefore, he could not subscribe to the opinion that if madmen were capable of knowing what they were doing they ought to be punished like sane people. Now the fact was well known that madmen were capable of being influenced by motives as well as other people, and this principle was acted upon in madhouses by a system of encouragements and deprivations. But insane people were only accessible to these influences within a certain range. The conclusion derived from the fact of madmen being thus influenced within confinement, was that they were equally accessible to the influence of the fear of punishment out of confinement, and while there were so many mad people about, the question arose what punishment should be established for their crimes. He thought the same rules should be followed as were adopted in lunatic asylums, where everything was conducted without cruelty, and upon the most benevolent principles. As no madman would be tortured under confinement, so no madman out of confinement should be subjected to corporal punishment. Society had a right to protect itself from the crimes of madmen, and it ought to do it by holding out the same punishments that operated in lunatic asylums. As to the question of hanging, insanity was of such various degrees that it was hardly possible to say whether a person was a lunatic or not. He was opposed to capital punishments in any case, and he conceived there was now a means of getting rid of the difficulty raised of late as to the wisdom of capital punishments, in admitting the plea of insanity, and punishing, sane as well as insane criminals, with confinement tor life. Society in all cases of crime had only the right, with respect to the criminal, which a mother had with regard to her child, that of punishing it by way of correction and example. All our actions were the result of our internal frame, acted on by external circumstances, and, therefore, if an individual under the influence of some morbid disease committed a crime, it was wrong to think ill of him although it was proper to condemn his actions; therefore, punishment ought not to be inflicted with the object of giving the individual pain, but of applying motives to that individual and others to avoid that which was criminal and wrong. The punishment he would substitute for capital punishment would be confinement for life in a lunatic asylum without reserve; it would be hard upon the individual if he ever came to his senses, but society had a right to protect itself by holding out this punishment to others, and also of protecting itself in the event of such an individual turning mad again. Madmen should not only know that if they commit crime they will be confined, but that that confinement will be a real calamity to them. If these principles were acted upon, justice would be done to society, madmen would be considered madmen, and society would be secure.

SOME REMARKS ON MEDICAL LEGISLATION.

By Dr. LICHLENSTADT, in the 'Berlin Medical Gazette.'

We find almost everywhere various grades of medical men, but in this divisional arrangement there is great imperfection. Certainly, every medical man cannot be equally skilled in every branch of his art. If, therefore, in large towns the practice of one branch has for a long time been allowed to medical men, as operative surgeons, accoucheurs, &c., yet every medical man should be familiar with all these branches, and be able to employ them, if he should happen to stand alone and a sudden necessity should arise for such treatment. We cannot allow the separate exercise of any branch if it be not founded upon general medical principles, except in subordinate branches, as dental surgery. A similar exception might be made on good grounds with respect to midwifery. Can physicians allow that those who, on account of imperfect knowledge and principles, have only a circumscribed permission to practise, and who are distinguished by ambiguous names, as—surgeons, country physicians, licentiates, officiers de santé, &c., half doctors, in fact, agree with a pure medical constitution? They are, perhaps, useful in their circles, but they certainly have overstepped their limits. A just government will not take from individuals what has been granted; but it ought not to allow any more opportunities for the formation of half doctors. Russia has long since done what is right in this respect. The striking divisions into physicians, staff physicians, medico-chirurgi, and doctores medicinæ et chirurgiæ have there no influence on practice; for every one of these can follow medicine in its entire compass. Subordinate to all these is the assistant, called feldscheer, who is allowed to act only by their direction. In France the old ridiculous separation of physician and surgeon still obtains, and in the army stands out in fuller prominence. That the medical staff of the army has long been formed peculiarly, and that a less complete plan of instruction subsists for its medical men, is a great defect. Two kinds of physicians, military and civil, of different education and heterogeneous pretensions, have hence arisen, and have encountered each other's practice in fierce hostility. The military physician should have a due position and sufficient remuneration. In those countries where the army is composed of all grades, its medical men ought not to be a separate caste from other physicians. It is to be hoped that the time is not distant, when in all civilized countries the existence of different degrees of education and different modes of examination, in and out of the army, will be only known as a matter of history.

Whether the physician should pursue his studies according to a rigorous plan, or be allowed a free option in the matter, is a difficult question. If we determine for free University studies generally, so must we allow them also to the physician: on the contrary, if all other studies are bound to an entirely fixed course, so must the physician be subject to the same rules. In this, however, the following points ought to be observed.

1st. Young men who possess a University education can alone be permitted an entirely free course of studies. The unriper, the intended physician in knowledge and age, so much the more dangerous is freedom.

2nd. Free studies are suitable only in an Universitas Literarum, where all human knowledge is taught, and where a general zeal is excited for knowledge.

3rd. Moderate capacities will learn much more by prescribed regulations, than by a more free option; these are not worthy of freedom.

4th. With regard to the expression "free studies," unlimited discretion must not be understood; but the absence of compulsion to any determinate period, or to abide by the regular instruction of any determinate teacher; but a moderate compulsion to the physician arises from the peculiarities of his studies. During many other studies, nearly everything may be learned from books, and often without prejudice. The medical student is little benefitted by private study. Few departments of medicine are at present propounded in so abstract a manner, that the student can give a preference to a printed book, unless he is attracted through the beauty or peculiarity of the subject. A further constraint may lie in this,—that every teacher might have a right not to admit any student who is not properly prepared. Before physic, chemistry and botany are studied, no one ought to be allowed to attend any medical lecture. The French regulations to receive the students immediately after the first year of study into the hospital, as "*externes*," must produce a neglect of the preparatory province, and a premature predilection for practice. The great compulsion will be exercised by the *final examination*. Half yearly, and even yearly examinations, are incompatible with free studies, and generally lead to a superficial science, of which at the termination of his academic life the student possesses little more, unless compelled by a final examination in every department. There ought to be an examen philosophicum held, as a trial of initiatory studies (physics, chemistry, natural history, anatomy, and physiology,) after two years; and an examen practicum, which should proceed upon that which is peculiarly *medical*. It ought also to be permitted to the student, if he would choose, to have the first mentioned examination some short time before the second; and it should also be well known to him that at the end of his University life, and before he enters into his chosen calling, he will be subjected to "*an every sided*" examination—an examination that by free study ought to be much more severe than by a constrained course. The misuse of freedom, would thus only be feared in light-minded men.

FOREIGN LIBRARY OF MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

[Exclusively compiled for the "Medical Times," from French, Italian, and other Continental Periodicals.]

Andral, G., *Essai d' hematologie pathologique*, 8vo. 4s.——Petit, A., *Memoire sur le traitement de l'alienation mentale*, 8vo. 3s.——Piorry, J. A., *Traite de medicine pratique et de pathologie intrinsique ou medicale, professé a la faculte de medecine de Paris en* 1843. *Tome* 3, *Livns.* 1 & 2. 8vo. 8s.——Gerdy, *Resume des principales recherches d' anatomie, de physiologie, de chirurgie*, 8vo.——Amussat, J. Z., *Memoire sur l' anatomie pathologique des tumeurs fibreuses de l' uterus*, 8vo. 3s.——Archigenes, T. L. S., *Elemens de pathologie latrique*, 8vo. ——Tardieu, A., *De la morve et du farcin chroniques chez l' homme et chez les solipedes*, 4to. 15s. ——Rilliet et Barthez, *Traite clinique et pratique des maladies des enfants. Tomes* 1 & 2. 2 *Vols.* 8vo. Vol III. will complete the work; price of the 3 vols. £1. 1s. 6d.——Manoury et Thore, *Resume statistique de la clinique chirurgicale de l' Hotel-Dieu pendant l'annee*, 1841, 8vo.

, The above works may be had of Messrs. Dulau and Co., Soho-square.

PERISCOPE OF THE WEEK.

Caloric and Thermo-Electricity.—Dr. Knorr, Professor at the University of Kasan, has lately made a discovery which may lead to important results in the study of the nature of caloric and thermo-electricity. He has discovered a method of copying, by means of heat, on silver, copper, and steel plates, not prepared as in the daguerreotype and other existing systems. Some of these thermographs were taken in from eight to fifteen seconds; others, by another process, in from five to ten minutes.

Improved State of Health of the British Navy.—Dr. Wilson in his recently published reports, says—the causes of the improved health of British seamen consist in an almost entire change in the constitution of the service, especially in the following important particulars:—abundance of nutritious food, and of wholesome palatable water; personal and general cleanliness, and comfortable clothing; ventilation, reduced allowance of spirits, and afternoon meal of tea; small monthly payment of money, partly in addition to wages, since the year 1825; regulations and restrictions respecting punishments; provision for mental improvement and recreation; better built ships, with greater capacity between decks; and, it may be added, without reflecting generally on the spirit and practice of former times, at least in so far as the executive was concerned, more judicious and humane treatment generally of seamen.

Bilin.—Bilin forms the chief part of fresh gall, at the expense of which the acids peculiar to gall take their origin, perhaps whilst still in the body of the animal, and certainly very quickly after having been removed. Bilin is a perfectly amorphous body in the pure state, hard, transparent, and colourless, although it is sometimes obtained, in experiments for its preparation, of a yellowish, sometimes of a perfectly yellow colour, produced by colouring matters which cannot be entirely separated. In order to obtain it colourless it is best to employ old gall, as the colouring matters contained therein are already destroyed; but in that case it is difficult to separate it from a salt of soda, which obstinately adheres to it. It is perfectly neutral, of a bitter taste like gall, and afterwards leaves a somewhat sweetish taste, resembling that of Spanish liquorice, or rather that of the bitter sweet substance in the abrus precatorius; this slightly sweetish sensation is chiefly felt afterwards in the throat. It has not any odour; if dissolved in water, and then evaporated by heat, it evolves a smell like boiled glue. It does not deliquesce in the air, but in dry air is soon covered with numerous fine fissures, in consequence of which it loses its transparency. In this state it contains a quantity of water, which it yields up at a temperature of + 140, = 284 deg. F., becoming at the same time a semi-fluid mass, which is inflated by numerous bubbles, and which can be easily ground to a colourless powder: this absorbs gradually the lost water from the air—thus becoming coherent, and forming a transparent shining mass as before. It dissolves in water in all proportions, forming with it either a thick extract, like mass, or a solution at pleasure, which when diluted does not deposit any sediment. It dissolves also in alcohol, either pure or containing water in any proportion; by either, however, it is so very slightly acted upon, that it may be considered as insoluble therein, if the experiment be undertaken with the requisite care.—It is not precipitated by concentrated or diluted acids, not even by tannic acid; but by the strongest acids, with simple radical, sulphuric, phosphoric, nitric and hydrochloric acids, its composition is gradually altered if exposed to the influence of heat,

This occurs to the extent that bilifellinic and bilicholinic acids are deposited from the liquor. Nitric acid produces the same effect; it afterwards destroys the different products, and by evaporating the solution to dryness in the water bath, a porous, clear, swollen mass remains, which easily dissolves in water, leaving behind a brown, resinous, and not bitter substance, which is not acid, and dissolves in boiling water.

Singular Case.—The *Medicinische Zeitung* mentions a case of hydrocele in a man, aged 50. He would not submit to the operation, but he himself repeatedly pushed a pin into the tumour, in consequence of which it gradually disappeared. The writer of the case, Dr. Peters, opines that the pin produced chronic inflammation of the lining of the sac, and thereby reabsorption of the fluid.

A Third Mamma.—There is a woman in Remagen, writes Dr. Oberstadt in a German paper, who has a third mamma, about three fingers' breadth below the left breast; it measures about three inches in diameter, and is provided with its proper nipple, and a peculiar areola. When the woman reached her last month of pregnancy, milk flowed abundantly from it, which continued for about a month after her confinement and then gradually ceased.

The Quantity of Carbonic Acid Gas Exhaled in Respiration.—Messrs. Andral and Gavarret draw the following conclusions from a series of experiments instituted by them, to discover the quantity of carbonic acid gas exhaled from the lungs in man:—1st. The quantity of carbonic acid gas, exhaled in a given time, varies according to the age, sex, and constitution. 2nd. In man, as well as in woman, the quantity is modified according to the age, independently of the weight of the individuals experimented on. 3rd. At all the periods of life, between the age of eight years and extreme old age, man and woman are distinguished by, the difference in the quantity of carbonic acid gas exhaled by their lungs in a given time. All things being otherwise equal, man always gives forth a much more considerable quantity than woman. This difference is especially marked between the ages of sixteen and forty, at which periods man furnishes nearly twice the quantity of carbonic acid gas from the lungs that a woman does. 4th. In man the quantity of carbonic acid gas is constantly increasing from the eighth year to the thirtieth —the increase becoming suddenly very great at the period of puberty; from the thirtieth year the exhalation of carbonic acid gas begins to decrease, the diminution becoming more marked as age advances, so that at the extreme point of life the exhalation of this gas may not be greater than it was at the tenth year. 5th. In woman the exhalation of this gas increases according to the same laws as in man during infancy; but at the period of puberty, at the same time that menstruation appears, this exhalation, contrary to that which happens in man, is suddenly arrested in its increase, and remains stationary (nearly as the amount which it exhaled was in infancy) as long as the menstrual function is duly performed, when it ceases, the exhalation of the gas from the lungs is increased in a remarkable manner, after which it decreases, as in man, in proportion as the woman advances towards extreme old age. 6th. During pregnancy, the exhalation of the gas for the time equals the quantity given forth by woman in which menstruation has ceased. And 7th. in both sexes, and at all ages the quantity of the gas exhaled is greater when the constitution is strong, and the muscular system well developed.

Precautions for Chemical Tests.—Mr. R. Howard submitted to the last meeting of the Pharmaceutical Society a paper on this subject, and after showing that disulphate of quina may be adulterated with sulphate of cinchonine and *many* soluble vegetable substances and defy detection by any one of the usual tests suggested the following as approaching perfection. Put one hundred grains in a Florence flask, with five ounces of distilled water, and heat it over a spirit lamp; when it boils, notice whether complete solution is effected by this quantity of water; if so, your specimen is too soluble, and probably contains either some soluble adulteration, or some impurity, which renders the disulphate itself more soluble. Add two ounces more water (taking care to manage the flame of the lamp so as to avoid loss by evaporation): this quantity *boiling briskly* ought to dissolve the one hundred grains—if more is needed sulphate of lime may be suspected (and recognized by the test of spirit of wine). Now, let it crystallize in the flask, and when quite cold, filter out the crystals, washing out the flask with some of the filtered liquor, to avoid using more water. Put the filter with the crystals upon blotting paper folded many times, to absorb the mother liquor; let them dry in the air till they are quite dry to the touch, but not effloresced. In this state they ought to weigh about ninety grains, the mother liquor and unavoidable waste even of so simple a process, accounting for the rest. If the mother liquor be evaporated to one ounce, a second crop of about six grains may be obtained. The remaining mother liquor ought not, when evaporated to dryness, to yield more than two grains; any soluble impurity will, of course, increase the quantity of residuum. It will be well to try some which you have recrystallized, as a standard experiment, as the results depend in some degree upon the skill of the operator.

Mineral Acids in Dropsy.—Dr. Trusen, of Posen, has found mineral acids of universal benefit in dropsy not dependent on disease of the respiratory organs, or extensive disorganisation of the liver. The principal medicines of this class he employed, were the acid-elixir of Haller and phosphoric acid. The former is useful in dropsies of an adynamic character, those consequent on intermittent fevers, and others due to checks of the perspirations or other secretions. The phosphoric acid is suitable in cases of dropsy owing to an altered condition of the blood, those supervening after diarrhœa, dysentery, chlorosis, &c. The above medicaments, of themselves, generally, insure a free action of the bowels; in some obstinate cases, alcoholic vapour-baths are used to produce a sudorific effect. M. Trusen remarks, that the extensive tumefaction of the scrotum, which presents so marked a tendency to terminate in gangrene, yields, under the use of detergent lotions of vinegar, muriate of ammonia, and water.

Pulmonary Tubercles.—M. E. Boudet, after hundreds of autopsies of all kinds, thinks that between the age of 1 day and 2 years, tubercles exist in the lungs and bronchial glands in 1 of 57 subjects From 2 to 15 years three times in four (33 in 45.) From 15 to 76 years six times in seven (in one hundred and sixteen of one hundred and thirty-five subjects.) During this period of life, six out of seven, i. e., present recent or old tubercles, and their presence may be considered the rule, their absence the exception. The favourable modifications of tubercles of the lungs are 1. *Sequestration.*—The tubercular matter, without being obviously changed in its nature, is isolated from the surrounding parts by means of a mucous, or a fibrous, or a fibro-cartilaginous membrane. 2. *Induration*, i.e., the tubercle is of a dry friable consistence, or it becomes tenacious and dense, though fatty to the touch, or it becomes calcareous. 3. They become *black pulmonary matter.* 4. Are *absorbed.* 5. They are *eliminated* by the bronchiæ. These transformations which sometimes co-exist in the same individual, may be effected during any of the periods of the evolution of tubercles. In one hundred and ninety-seven promiscuous cases, M. Boudet found in ten a cavity completely cicatrised, without any recent tubercle. In eight cases the complete or incomplete cure of one or several morbid cavities coincided with the presence of recent tubercles. Pulmonary cavities cicatrise by the organization of an accidental mucous membrane, or by the formation of a fibro-cartilaginous envelope. Whether the cavities communicate or not with the bronchial tubes, they may remain open.

Iliac Disease.—A labouring man, forty-eight, robust, was attacked with a sudden and violent pain in the abdomen to the right of the umbilicus. The pain persisted, and for several days no evacuation of the bowels took place. Aperient medicines and lavements, now employed, were far from producing any benefit, and the patient soon took to his bed. Agitation and restlessness continual; the tongue furred; pulse small, though regular, abdomen inflated, particularly its gastric region, but painful only at the one point to the right of the navel. Frequent excrementitious eructations, and in twenty-four hours afterwards stercoral matters were vomited. The pain, anxiety, &c., continued to increase, while the pulse fell so as to become almost imperceptible. Dr. Schrobitz, of Gaudenz, first obliged the patient to take a warm bath, and then had him placed on his back, and raised his legs over the shoulders of a strong man. The latter, having grasped his ankles, the rest of the patient's body was supported by two other persons, so as to hang head downwards. The patient was then shaken briskly several times, while the practitioner kneaded the abdomen with both his hands. After about twenty-five minutes incessantly occupied with this kind of manipulation, the patient experienced all at once, in the chief seat of pain, a sensation of something having given way (*le sentiment d'unecessie qui se serait dechiree,*) when the pain immediately and wholly ceased. Warm baths and gentle aperients now insured complete recovery.

Marine Glue.—The new marine glue will be found an excellent cement for joining pieces of glass together, and especially in the making of cells for the reception of microscopic objects, mounted after the method of Mr. Goadby. The glue is prepared in the following manner: Take 4 gallons coal naphtha, in which 1 pound caoutchouc is to be dissolved, by maceration for several days; and with 1 pint of this solution, 2 pounds shellac are to be mixed by heat; and when the fusion is complete, the material is to be poured out on a cold slate, and moulded into convenient forms for use. When cold, it is hard as sealing wax, and is applied by heating the pieces of glass, which, when hot, and covered with the cement, should be pressed closely together.

Potatoe in Scurvy.—In an article published in the *Medical Gazette*, Dr. Baly states that he has found that the efficacy of the potatoe as an anti scorbutic, which was demonstrated by Sir Gilbert Blane, Mr. Smith, and M. Julia Fontanelle, is not essentially impaired by the boiling heat; and that, as ordinarily cooked, it is an admirable preservative against scurvy. He was induced to turn his attention to the subject by noticing that the soldiery confined in the Penitentiary, who had not any potatoes on their diet-table, where subject to scurvy, while the convicts, who were supplied freely with that esculent, escaped its ravages.

After some unimportant changes in their diet, which were without benefit, potatoes were ordered for them on Dr. Baly's suggestion, and soon afterwards the disease finally ceased.

THE URINE.—The peculiar value of the information afforded by an examination of the urine arises, in addition to the readiness there exists for detecting any change, from this fluid being a secreted excretion, and not being, like the alvine evacuations, an excretion made up in great part of the debris and effete portions of the ingesta, and therefore liable to have its indications masked by a series of causes which are nearly without action on the urine. The urine, in a physiological sense, must be regarded as arising from three sources, each of which, however, acts in preserving the equilibrium of the delicately adjusted balance of the several functions of the body. The effects of large aqueous potations in producing a copious discharge of pale urine, at once shews one source of the secretion, and points out one of the great functions of the kidneys, viz. the pumping off any excess of fluid which may enter the circulation. The peculiar character of the urine passed just after the digestion of a meal is complete, partaking often of the physical or chemical characters of some element of the food, indicates a second great function of the kidney, viz. the removing from the system those portions of the ingesta which have been absorbed whilst passing though the small intestines, and thus have entered the circulation, or of excreting from the circulating mass the—often noxious—results of mal-assimilation of the former. The fœtid urine voided after eating a meal of asparagus may be taken as an example; and of the latter, the abundant elimination of oxalic acid from the blood in many forms of irritative dyspepsia will serve as an illustration. The third and very important function performed by the kidney is its serving as an outlet, to evolve from the animal organism those elements of the disorganization of the tissues, which cannot serve any ulterior purpose in the economy, and which cannot be thown off by the skin or lungs. Every moment we live each atom of our frame is undergoing some change or other: the old matter is absorbed, and ultimately thrown off by the excretion, whilst an equivalent quantity of new matter is deposited to supply its place. The old matter absorbed is not thrown off as dead tissue, but its elements become re-arranged; a portion, especially its carbon, has to perform an important secondary office in the economy before it is got rid of, whilst its azotised elements are excreted by the kidney; and this constitutes a third variety of urine in health.

MEDICAL NEWS.

Mr. Cooper, the surgeon, has been elected coroner for Portsmouth, by a majority of eighteen over his competitor, Mr. Newlyn, a solicitor.

Mr. Isaac Flower, surgeon, abandoned the contest for the coronership for Wiltshire, in consequence of a notice from the Poor Law Commissioners that he could not be allowed to hold the county coronership and medical officership of a union at the same time.

A society for reprinting old and publishing new medical works has been formed. Mr. Burroughs, of George Street, Hanover Square, is the secretary.

Mr. Perry, of the Medico-Chirurgical Society, is the new inspector of prisons, vice Dr. Shortt deceased.

Mr. Bouilland has been re-elected a Member of the Chamber of Deputies.

Dr. Kingston has been elected surgeon to the Westminster Hospital by a majority of fourteen. Dr. Basham was strongly opposed by most of the medical officers of the Institution, who charge on him, we know not with what truth, a love of *eavesdropping* sycophancy to the committee.

Mr. Tucker, of Bridport, recently brought an action against the executors of a Mr. Chambers for monies due to him for medicines, surgical operations, and *attendances*. The last item was disputed as contrary to custom. The jury, under the judge's direction, decided that the surgeon might charge for attendances and gave the plaintiff a verdict.

Mr Meymott has been elected surgeon to Surrey County Gaol, Horsemonger Lane, after a hotly contested election by a casting vote of the sessions chairman. Mr. Harris was the other candidate.

FALSE NEWS.—An obscure weekly journal has been recently asserting that the College of Physicians has been admitting into its body, under false colours, a new kind of practitioners, who are marked in contra-distinction to the fellows and licentiates as "*members*." This is neither more nor less than arrant nonsense. The trifling truth on which the falsehood has been raised is, that the College authorities have found it convenient to shew increased liberality, in the admission of old general practitioners into the number of their *licentiates*.

ROYAL COLLEGE OF SURGEONS, LONDON.

List of Gentlemen admitted Members on Friday, March 10, 1843:—

P. Walsh, G. W. Bagg, R. Lee, W. Mitchell, W. B. Francis, J. Arthur, J. Ness, J.O. Goodridge, T. J. Austin, and T. P. Smith.

Admitted, Friday, March 17th, 1843.—P. Hubbert, T. A. Warren, W. Williams, T. Hawkins, P. A. Boyle, J. B. Davis, J. Allan, J. R. Pope, J. T. Jenkins, J. S. Nott, J. H. Coveney.

ADVERTISEMENTS.

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